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PART ONE: JAPAN

Section I. DEFENSE OF BETIO ISLAND

1. GENERAL

The following information about the Japanese defense of Betio Island is based on a joint study made by Marine Corps, Army, and Navy intelligence personnel.¹ The fundamental points brought out by this study are presented in the Intelligence Bulletin so that they may be widely disseminated, particularly among junior officers and enlisted men of the Army.

That the Japanese organized their Betio defenses for an all-around, decisive struggle to keep United States forces from reaching the beaches is borne out by a study of the map on pages 34 and 35. This map, drawn to scale, is designed to show an over-all picture of the enemy defensive setup. The insets show important areas in detail.

The Japanese beach defenses consisted of well-emplaced and well-sited weapons, various types of obstacles, and mines. The weapons included grenades,

¹A short preliminary discussion of the Japanese defense of Betio Island was carried in *Intelligence Bulletin*, Vol. II, No. 6, pp. 19-38.

mortars, rifles, light and heavy machine guns, 13-mm dual-purpose machine guns, 37-mm guns, 70-mm infantry guns, 75-mm mountain guns (Model 41), 75-mm dual-purpose guns (Model 88), 80-mm antiboat guns, 127-mm twin-mount, dual-purpose guns, 140-mm coast-defense guns, and 8-inch coast-defense guns.

The obstacles included pyramid-shaped, reinforced concrete obstacles, which were placed about halfway around the island on the coral reef; an antiboat barricade, made of coconut-palm logs; double-apron barbed wire; a perimeter barricade, constructed chiefly of coconut-palm logs; and antitank ditches, dug a short distance back of the perimeter barricade.

Antipersonnel and antiboat mines were laid on the fringing reef—frequently between the concrete obstacles—and on the beaches.

Several Japanese flame throwers, were found.

Appropriate fire-control equipment was installed for the coast-defense and antiaircraft batteries, including range finders, directors, and searchlights. The weapons, as a rule, were mounted in strongly constructed emplacements made of coconut-palm logs, reinforced concrete, and revetted sand.

The Japanese employed the 13-mm (approximately .50 caliber) machine gun as their basic beach-defense weapon along the entire north coast and on both sides of the eastern tip. Along the western and southwestern coasts, the 7.7-mm heavy machine gun was the basic weapon.

The organization for defense inshore was haphazard. Beaten on the beaches, the Japanese fell back to bomb-proof ammunition shelters and personnel shelters inshore from the beaches, and fired from the doors of the shelters. These were blind to attack from several directions; they were not designed as blockhouses, and had only a few firing ports.

2. OBSTACLES

a. Reinforced Concrete Pyramids (tetrahedrons)

Almost up to the time United States Marine forces landed on Betio, the Japanese were working rapidly to surround the island with pyramid-shaped, reinforced concrete obstacles on the fringing reef. The process was approximately half completed at the time of landing. Figure 1 shows how the enemy had been molding these obstacles on the beaches. Before concrete was poured into the inverted forms, the angle irons which formed the corners and horns were driven into the ground.

The actual size of the obstacles varied. Their bases usually were about 4 feet wide and their height was determined in accordance with the average height of the water over the reef. The center-to-center distance between the obstacles varied from 6 to 20 feet, on different beaches.

Located about midway out on the reef, these obstructions were just high enough to break the water at high tide. They were designed to obstruct landing boats or

to canalize them into predetermined areas which could be swept by the fire of antiboat guns, ranging from 13-mm machine guns to twin-tubed 127-mm guns.

In addition to the reinforced concrete obstacles, the Japanese rounded out their reef defenses by using



Figure 1.—How Japanese Molded Concrete Obstacles.

wire, barricades, mines, and fairly large piles of coral rocks, which in some areas were staggered among the pyramids and strewn about the reef. The rocks were from 6 to 18 inches in diameter, and the piles were 4 to 6 feet high.

b. Wire

The Japanese used three types of wire obstacles: high double-apron fences, low double-apron fences, and single-apron fences.

The high double-apron wire was placed inshore of the pyramidal obstacles and below of the high tide mark. It was constructed to canalize assaulting troops into direct enfilade fire from emplaced light and heavy machine guns and into trip wire.

Immediately inshore from the beach, high double-apron wire was placed directly in front of tank ditches, and low double-apron wire was placed behind the ditches.

Low double-apron wire was placed above the high-tide mark, and was employed to canalize or obstruct assaulting troops in front of covered machine-gun emplacements.

Single-apron wire was erected in front of some portions of the log barricades. The wire was strung from the tops of vertical logs to stakes in the sand forward of the barricade.

c. Antiboat Barricade

On the south beach of Betio, the Japanese constructed an antiboat barricade with coconut-palm logs (see fig. 2). The barricade, which was 10 feet high, was shaped like a wide V, with one leg 700 yards long and the other 300 yards long. The logs were secured in place with wire and soft steel fasteners, $\frac{1}{2}$ inch in diameter.

The barricade was planned to divert landing boats to the east and west of the center of the beach, and into areas which would receive flanking fire from emplaced heavy machine guns, dual-purpose guns, and heavy antiboat guns.

d. Perimeter Barricade

The Japanese constructed a barricade of coconut logs around virtually the entire perimeter of the island (see fig. 3). There were a few unbarricaded spaces, but these were protected by antitank ditches. Many of the perimeter-defense emplacements, because of the nature of their construction, were in themselves good barricades. (These are described later.)

Each coconut-log barricade followed one of three general designs: (1) Log barricade with built-in rifle or

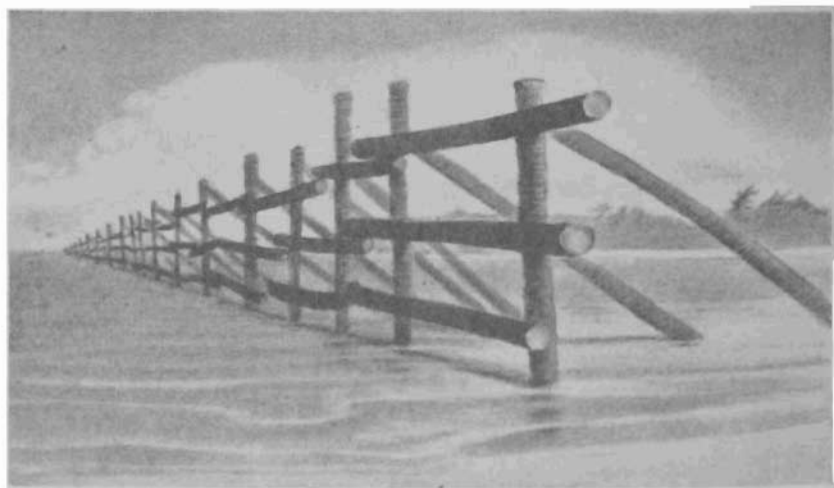


Figure 2.—Japanese Antiboat Barricade.

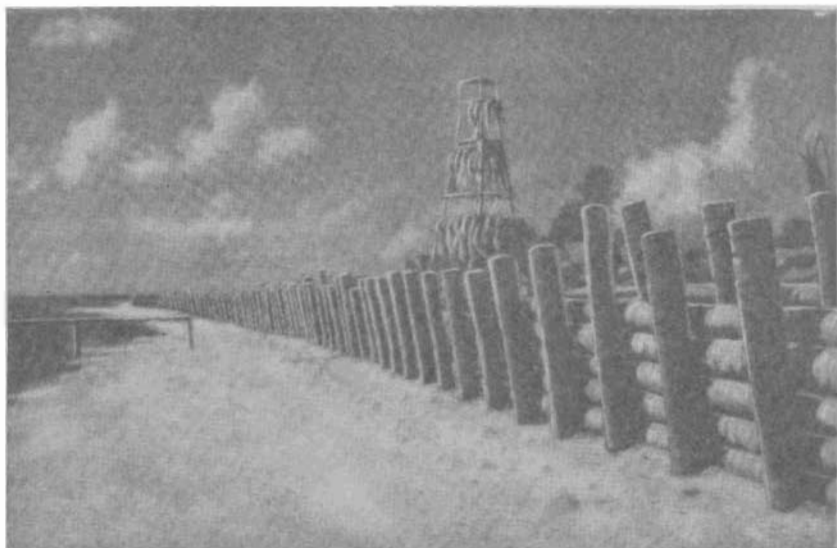


Figure 3.—Japanese Beach Barricade.

light machine-gun emplacements (see fig. 4); (2) log barricade without built-in weapon emplacements (see fig. 3); and (3) tree stumps laid with their bottoms facing the sea.

That portion of a barricade which did not have built-in and covered rifle or light machine-gun emplacements had, instead, open sandbagged emplacements behind the barricade for these weapons.

e. Antitank Ditches

Antitank ditches on Betio were only 5 to 7 feet deep—because the water table was about 8 to 10 feet below the surface—and were 12 to 14 feet wide. Only one ditch was revetted—with coconut-palm logs on the opposite side of the expected tank approach.

Wire obstacles were placed on a road at points where antitank ditches formed a junction. Covered machine-gun emplacements were sited at the ends of some antitank ditches. Apparently antitank-gun fire was to be supplied by 37-mm, 70-mm, and 75-mm guns.

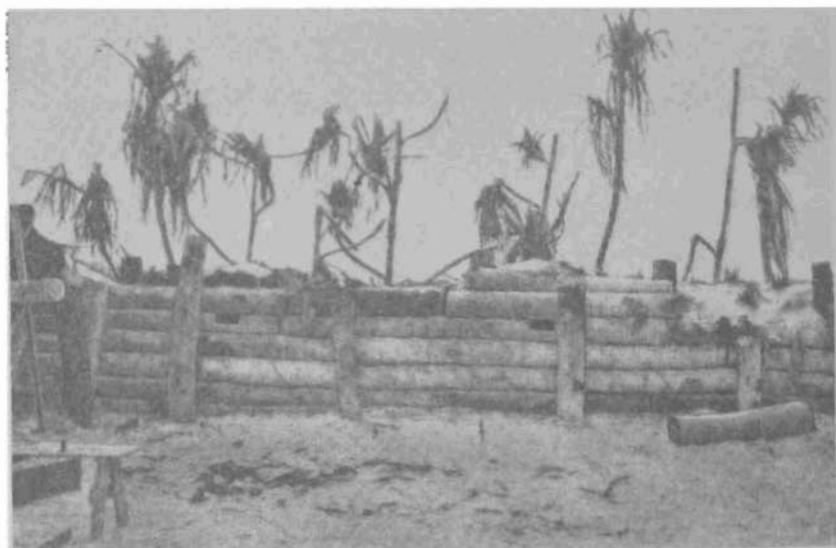


Figure 4.—Japanese Beach Barricade (with built-in rifle or light machine-gun emplacements).

On the south beach, one antitank ditch was located about 10 yards inshore from a line of coconut-palm stumps. Machine guns emplaced under cover and 37-mm guns emplaced without overhead protection were located inland to provide direct covering fire for the antitank ditch. At other points along the south beach, short sections of antitank ditches took the place of barricades.

3. MINES

Four types of mines were used by the Japanese on Betio: Model 93 antivehicle mine, Model 99 armor-piercing mine (magnetized), an antitank mine, and an antiboat mine.

The Model 93 was used primarily against personnel. This mine is usually placed in patterns of diagonal rows, with the mines about 30 inches apart. The brass plug on top of each mine is generally at ground level. The device is activated by pressure on the plug.

The Model 99 (magnetic) mine was used primarily against tanks and armored cars.

The antiboat mine was found in large numbers on the south and west coasts. It is believed that the Japanese were in the process of encircling the island with these mines at the time the United States Marines landed. Along the south beach the mines were located between the double-apron wire and the shore. Laid in a double lane paralleling the beach line, they were placed about 20 yards apart. In some places the mines were covered by 2 to 3 feet of water at high tide, while in others they were dry both at high and low tide.

Only a few of the antitank mines were found. These were buried in the sand, with their necks exposed.

4. GRENADE DISCHARGERS AND GRENADES

The Japanese used Model 89 grenade dischargers and two types of hand grenades against landing boats and personnel. The grenade dischargers apparently

were assigned by sections throughout the beach-defense system. In addition, several sections were placed behind antitank ditches in the eastern portion of the island.

5. RIFLE AND LIGHT MACHINE-GUN EMPLACEMENTS

a. General

Light machine-gun emplacements and rifle emplacements (or pits) were constructed to accommodate these weapons interchangeably. Most of the emplacements were located directly in the beach barricade. Some of these were protected by a strong cover, while others were open. Located close to the beach barricade were several light machine-gun emplacements made of concrete.

b. Covered Type

The covered emplacements in the beach barricade were topped with at least one layer of coconut-palm logs about 10 inches in diameter and with loose sand and coral at least 1 foot thick (see fig. 4). Inside, these emplacements were 4 feet long, 4 feet wide, and 4 feet high. The occupant or occupants were protected by a thick blast wall, located so close behind the emplacements that entrance was difficult (see fig. 5).

Each of these emplacements had a small firing port, 12 inches long and 6 inches wide, which permitted little more than frontal fire. Inside, under the firing



Figure 5.—Rear View of Japanese Rifle or Light Machine-gun Emplacements (showing type of construction, blast walls protecting entrances, and the spacing between each pit).

port, there was a small fire step or shelf on which a light machine gun could have been placed.

Some of the covered rifle emplacements connected at the rear with communication trenches, which were revetted with vertical logs, boards, wire drums, and corrugated sheet steel. Some of these trenches were covered.

c. Open Type

The open emplacements in the barricade system were mere slots behind the log wall, protected on the sides by logs bracing the barricade, by sand, and by a board

revetment (see fig. 6). Only rifles and light machine guns could be fired from these emplacements.

Some of the open-type emplacements were located a few feet behind, and above the top of, the barricade. These emplacements were constructed of sand and were revetted with corrugated sheet steel and logs.

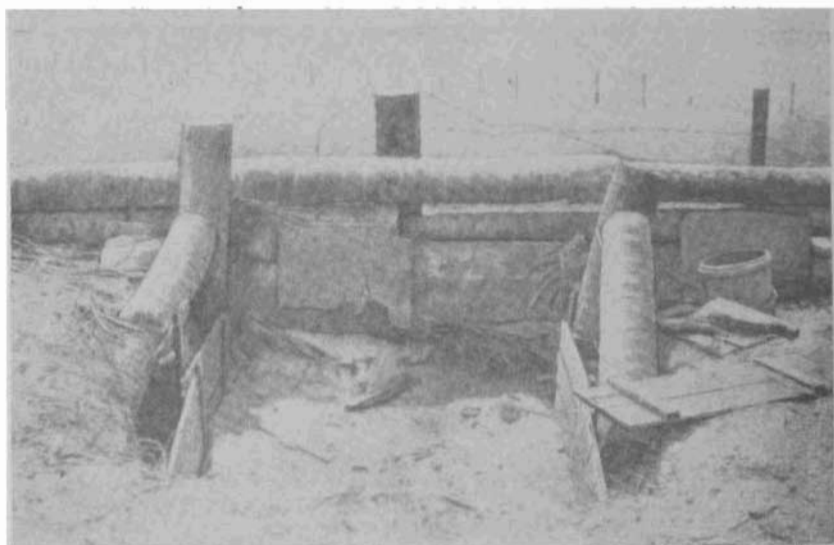


Figure 6.—Japanese Open-type Rifle or Light Machine-gun Emplacement.

d. Concrete-pillbox Type

Figure 7 shows a light machine-gun emplacement made of reinforced concrete and provided with three firing ports. Most of these emplacements were built just forward of the beach barricade, and were sited so as to provide frontal fire to cover tactical wire, and

flanking fire to cover the front of the barricade. Since other emplacements in the vicinity of the concrete pillboxes provided flanking and frontal fire, the pillboxes may have been designed primarily for firing on targets of opportunity.

The tops and sides of the concrete emplacements had an average thickness of 14 inches; they were reinforced by steel rods $\frac{1}{2}$ inch in diameter.

Although these emplacements were independent of the beach barricade emplacements, they were connected with the barricade by tunnels, communication trenches, and blast bays made of logs and concrete.



Figure 7.—Japanese Reinforced-concrete Emplacement (provides both frontal and flanking fire for light machine guns).

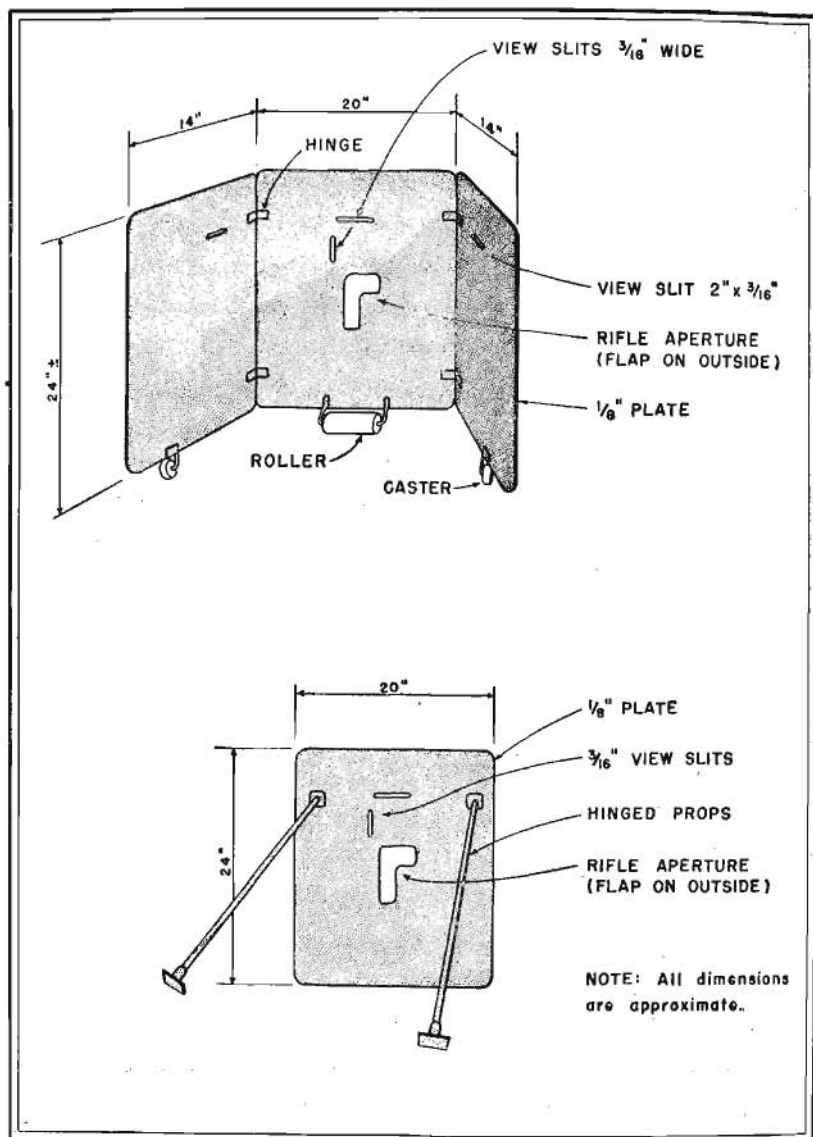


Figure 8.—Japanese Rifle Shields (top view—for use on runways or other hard-surface areas; bottom view—for use on soft ground).

e. Shields for Riflemen

Figure 8 shows details of two types of shields for riflemen. The shields, found near the main runway of the Betio airfield, are light and easy to carry; therefore, in effect, they are mobile rifle emplacements which afford some protection. They are only $\frac{1}{8}$ inch thick, but are made of hardened steel. They were painted a dull brown.

6. HEAVY MACHINE-GUN EMBLACEMENTS

a. Built into Beach Barricade

Most of these were encountered in the strongly organized and well-constructed barricade system on the west and southwest coasts. Within this system, the heavy machine-gun emplacements were spaced at fairly regular intervals, and were separated by covered rifle and light machine-gun emplacements, which afforded local protection.

Roughly, the built-in emplacements were of two types: those with a single firing port, for frontal fire, and those with two firing ports, for flanking fire. Both types were made of logs and sand, and were an integral part of the beach barricade.

The single-port type provided frontal fire over the reef and covered the approaches to machine-gun emplacements which were sited for flanking fire.

Most of the single-port types were well designed and constructed (see fig. 9). The sides and top consisted of two or three layers of coconut logs and a layer or

two of sandbags covered with sand and coral. The sides were banked with sand to add protection and camouflage.

The outside width and length of these emplacements were 18 to 20 feet. Inside, they were divided into compartments, one or more of which were used to store and protect ammunition—these were always in the rear.



Figure 9.—Japanese Heavy Machine-gun Emplacement (as an integral part of a beach barricade).

Most of these emplacements were connected with bomb shelters, rifle and light machine-gun emplacements, command posts, and ammunition dumps by means of revetted communication trenches.

The two-port type of heavy machine-gun emplacement could mount two heavy machine guns (7.7-mm)

and could possibly mount 13-mm machine guns. The firing ports in nearly all cases were sited for flanking fire along the tactical wire entanglements and boat obstacles. In fact, the design of the emplacements prohibited frontal fire.

The top and sides consisted of two, and sometimes three, coconut logs, which were covered by two layers of sandbags and rounded off at the sides with sand and coral. The finished structure, except for the entrance and connecting communication trenches, appeared from the top as a large sand mound within the barricade.

The outside length and width of these emplacements measured approximately 24 feet. Inside, they were divided into compartments to give added protection to both personnel and ammunition. The latter was kept in a separate, well-constructed room in the rear of the emplacements (see fig. 10).

A second type of twin-port heavy machine-gun emplacement (or casemate) was made of concrete. Only two of these were found. Each had two ports, for flanking fire, and each had two adjoining antiaircraft emplacements. Although this type of emplacement apparently was designed for the use of 13-mm machine guns, indications are that 7.7-mm machine guns were used in the two found on Betio.

b. Outside of Beach Barricade

Open-type heavy machine-gun emplacements in the interior of the island consisted of simple circular pits



Figure 10.—Rear View of Japanese Heavy Machine-gun Emplacement (showing ammunition storage room in rear; entrance; and rifle or light machine-gun emplacement to left).

dug into the ground and revetted with boards, corrugated sheet steel, and sandbags (see fig. 11). Logs and oil-drum pedestals were used as mounts for guns. These emplacements obviously were designed primarily for antiaircraft fire (probably 7.7-mm machine guns). They were located at irregular intervals around the airfield and inshore of the barricades.

Apparently the Japanese did not construct any single-port, covered heavy machine-gun positions inshore of the beach barricades. However, as the situation developed, the enemy made full use of the



Figure 11.—Japanese Open-type Heavy Machine-gun Emplacement (primarily for anti-aircraft).

entrances to bomb-proof shelters as machine-gun firing positions.

7. 13-MM MACHINE-GUN EMPLACEMENTS

a. General

In defense of Betio, the Japanese employed both single- and twin-mount 13-mm dual-purpose machine guns. All were pedestal-mounted, and were located in open emplacements to permit anti-aircraft fire, as well as fire on ground troops. Most of these guns were sited so that frontal or flanking fire could be placed on the beach and reef. Several were located on top of high structures, such as the magazines near the 127-mm dual-purpose guns.

b. Single Mount

Emplacements for the single-mount gun were approximately 4 feet deep. The gun pedestals generally projected almost to the ground level; thus the gun itself was only 1 to 1½ feet higher (see fig. 12).

In construction, these emplacements varied as follows:

(1) Six-sided emplacements, 10 feet in diameter, with the retaining walls consisting of a layer of horizontally placed logs, or boards and logs, or sandbags, and a sandbag parapet. In many of these emplacements, the parapets were two or three sandbags higher than others—presumably for protection against blast



Figure 12.—Emplacement for Japanese Single-mount 13-mm Machine Gun.

and fire. In at least one position, communication trenches led to the emplacements.

(2) Ten-foot-square emplacements, with log and sand-constructed shelters $6\frac{1}{2}$ feet high and 10 to 15 feet wide. These emplacements had coconut-log retaining walls which were banked with sand.

(3) Square or six-sided emplacements, raised about 3 feet above ground level. Walls (2 feet thick) of sand and sandbags were contained by corrugated sheet iron, posts, and so forth. The inside diameter was 10 feet; the exterior diameter, 14 to 15 feet. (One gun was provided with a $\frac{3}{8}$ -inch-thick steel shield.)

(4) Twin, eight-sided concrete emplacements, which were part of a ground machine-gun and antiaircraft machine-gun casemate (already described in par. 6a).

(5) Emplacements on top of buildings and revetments; these were circular and simply constructed of sandbags.

c. Twin Mount

Two types of emplacements for the twin-mount guns were noted:

(1) Slightly pear-shaped emplacements, 10 feet across at the rear and slightly less at the front; 3 feet high at the rear and sloped forward to a height of 2 feet at the front; walls made of sandbags 3 feet thick, and further banked by soft sand.

(2) Square emplacements atop ammunition magazine; 10 feet across on the inside; walled by boards

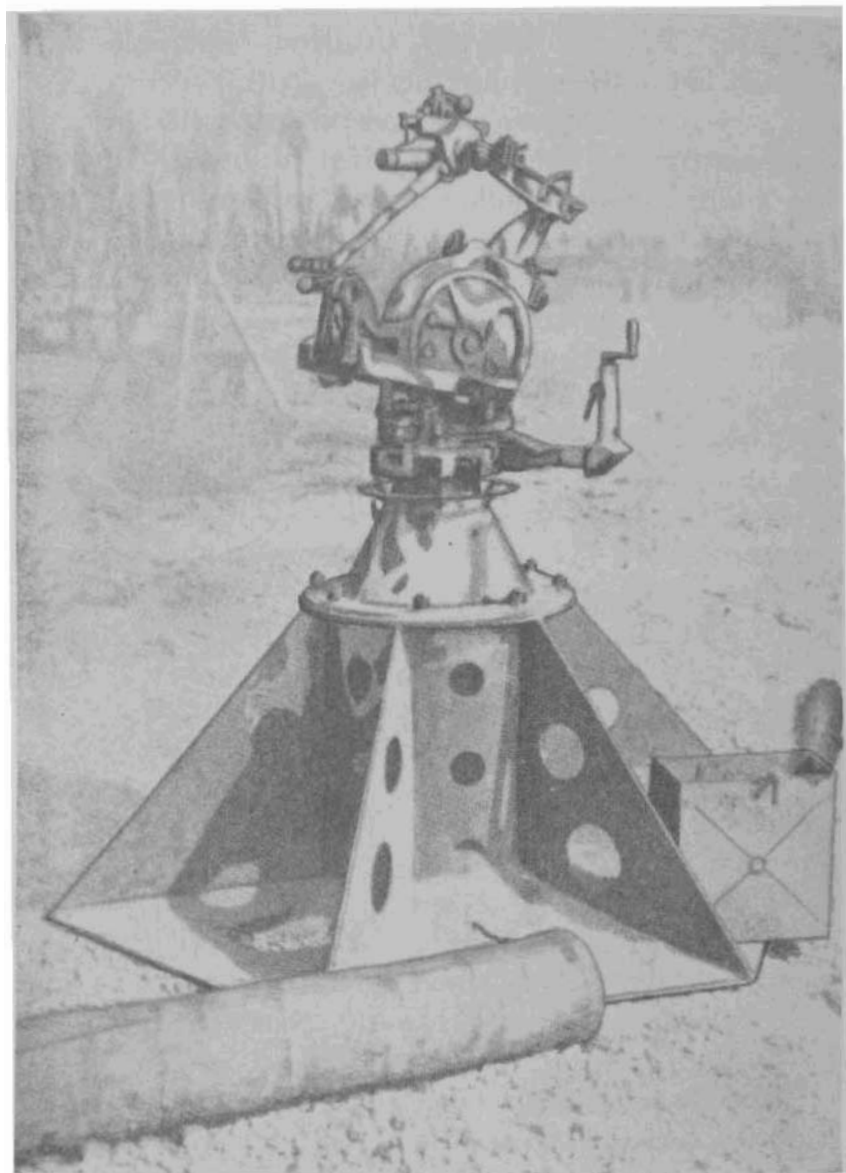


Figure 13.—Pedestal for Twin-mount Japanese 13-mm Machine Gun.

and banked with sandbags and loose sand to a thickness of 3 to 4 feet; 2 feet high.

Figure 13 shows one of the three known types of pedestals for the twin-mount machine gun.

8. FIELD GUNS AND EMPLACEMENTS

The location of emplacements for the three types of field guns used by the Japanese on Betio indicates that their primary mission was antiboat defense. Some of these guns—75-mm mountain gun (Model 41), 70-mm battalion gun (Model 92), and 37-mm rapid-fire gun (Model 94)—were used as support weapons after our beachheads had been established.

Emplacements for all three guns were roughly of the same type. The interior was arrow-shaped or, in a few cases, egg-shaped, with the entrance in the broad end and the firing port in the narrow end (see fig. 14). The walls consisted of a single layer of logs, laid either horizontally or vertically. In some cases they were lashed to retaining posts or were joined at the corners with steel rod fasteners. The walls were banked outside with mounds of sand, which were 4 to 5 feet in width at the base.

Most of the emplacements were roofed with a single layer of logs, covered to a depth of 2 to 2½ feet by loose sand. A few emplacements had no roofs (see fig. 15).

All emplacements had an unroofed entrance passageway in the rear, 5 to 6 feet wide and 5 to 10 feet long. In most cases the passageway was curved so



Figure 14.—Emplacement for Japanese Field Gun.



Figure 15.—Open Emplacement for Japanese Field Gun (probably for 70-mm battalion gun).

that a second rear wall could protect the rear of the emplacement from blast or fire.

The firing ports of all emplacements except those on the northwest coast were sheltered from blast and small-arms flanking fire by means of log- and sand-banked wings. These were 5 to 8 feet long and opened at an angle of about 100°. Some emplacements on the beach were protected by low double-apron wire.

These emplacements, although obviously not designed for small-caliber weapons, in many cases were used as last-ditch positions for riflemen and machine gunners. In a few instances, the guns were removed from the emplacements, turned around, and fired inland from the rear.

9. DUAL-PURPOSE GUN EMPLACEMENTS

a. For 75-mm, Model 88, AA Guns

Eight of these guns were emplaced on Betio. Four were sited as a battery near the northwest corner of the island, and the other four were arranged in pairs, one each on the north and south coasts of the eastern tip.

Except for minor variations, all emplacements for the Model 88 were similar. Dug to a depth of about 5 feet below the ground level, they had five sides, which were revetted with empty oil drums and with 1-inch-thick boards secured by vertical coconut logs or by solid coconut-log walls. Ammunition ready-boxes of varying sizes were built into one or more of the side walls. In some cases a communication trench con-

nected the emplacement and a nearby bomb-proof coconut-log shelter. The revetments for all emplacements were higher on the inshore sides than on the seaward sides, permitting low-angle antiboat fire on beach approaches. Sandbags secured the fill on top of the revetments.

The guns were mounted on spider-leg pedestal mounts.

Each group of guns was provided with fire-control equipment consisting of a range finder with a 2-yard base and a small (Model 1930) sound locator with four horns. Searchlights (150-cm and 90-cm) were located so as to serve both the antiaircraft and nearby coast-defense guns.

b. For 127-mm Twin-mount Guns

These guns, designed for coastal defense as well as antiaircraft defense, were emplaced in pairs in two locations. Their emplacements were constructed of concrete and were banked from the ground level to the brim of the concrete parapet with coral and sand. The distance between emplacements, center-to-center, was 40 yards.

Spaced at equal intervals around the side of the parapet were 10 ready-boxes, each holding 12 rounds of ammunition. Ammunition stores were kept in four concrete, sand-covered, bomb-proof buildings in the vicinity. Apparently the ammunition was carried from the main storage buildings to the ready-boxes.

A fire-control position for the battery of two twin mounts was located on a sand-covered concrete structure, 30 feet square and elevated 15 feet above the ground. A range and altitude finder and a director were mounted on this. The electrical and communication equipment for the installation was placed inside this structure, which was protected by four 7.7-mm machine guns placed at each of the four top corners. Additional protection for the entire installation was provided by two twin-mount 13-mm machine guns on top of the ammunition storage structures on the flanks.

A 150-cm Model 1933 searchlight was located 100 yards out on each flank of the installation.

10. COAST-DEFENSE GUNS

Japanese weapons on Betio emplaced solely for coast defense included six 80-mm guns, four 140-mm guns, and four 8-inch shielded naval type guns.

a. 80-mm Guns

These guns were found in batteries of three. There were two such batteries, one located in the center of the west beach and the other on the eastern part of the south shore. The latter battery had a secondary mission of covering the south reef antitank barrier with flanking fire.

The emplacements were constructed of logs and sand, and were open at the top except for palm-branch canopies provided for camouflage. They had six sides,

with a rear entrance. Double walls, made of logs, formed the six sides. Each log wall was laid horizontally, and was three logs, or 3 feet, high. The space between the double walls was about 3 feet and was filled with sand.

The front side of the emplacements paralleled the beach. Built into the two rear walls were concrete ammunition shelters, each capable of holding three ammunition boxes of 12 rounds.

Japanese standard-type bomb-proof shelters, each capable of holding 12 men, were located to the rear and to one side of each emplacement.

An observation tower, 15 feet high and constructed of logs, stood just behind, and to one side of, the central gun of each battery.

b. 140-mm Guns

Two of these weapons were located on the northwest point, and two on the east point. They were mounted in circular concrete pits which rested on the normal ground level. The floor parapet and ready-boxes of each pit were made of reinforced concrete and banked with sand. The pits, or emplacements, in each battery were about 60 yards apart.

The fire-control arrangement for each pair of guns included an observation tower, 80 feet high, which was erected on a sand-covered, bomb-proof shelter. The latter housed a power distribution board for supplying electricity to the guns and a communication or control center for the battery.

c. 8-inch Shielded Guns

Four of these guns were found on Betio, two on the southwest corner and two on the southeast coast.

The two guns on the southwest corner were mounted in a tandem arrangement in concrete emplacements, which were banked all around with sand and coral.

Ammunition was stored in a heavily constructed bomb-proof shelter, 75 yards from the gun position. A narrow-gauge railroad track led from the storage shelter to an ammunition ready-room which separated the two gun positions. Small hand-drawn cars were used on the track.

The fire-control system for this installation included a plotting room in a lower level of the upper gun emplacement, an observation tower (70 feet high), and the necessary wire and voice-tube communication between these elements and the guns.

The two guns on the southeast coast were located in circular concrete emplacements about 10 feet above the ground. The two emplacements were about 100 yards apart.

Ammunition and powder, and the personnel to handle them, were sheltered in four magazines situated a few yards to the rear of each emplacement. A ready ammunition-handling shack also was situated behind each emplacement.

A fire-control tower, 45 feet high, was situated behind the two guns.

11. TANKS

The Japanese had 14 Model 2595 (1935) light tanks on Betio. They were camouflaged in dug-in revetments, the tops of which were flush with the ground. The camouflage generally consisted of palm leaves.

Nine of the tanks were held around the air-defense command post near the lagoon shore.

12. COMMAND POSTS

The rifle and machine-gun positions, which formed the primary beach defense, were controlled from steel pillbox-command posts, spaced at intervals of about 300 yards around the perimeter of the island.

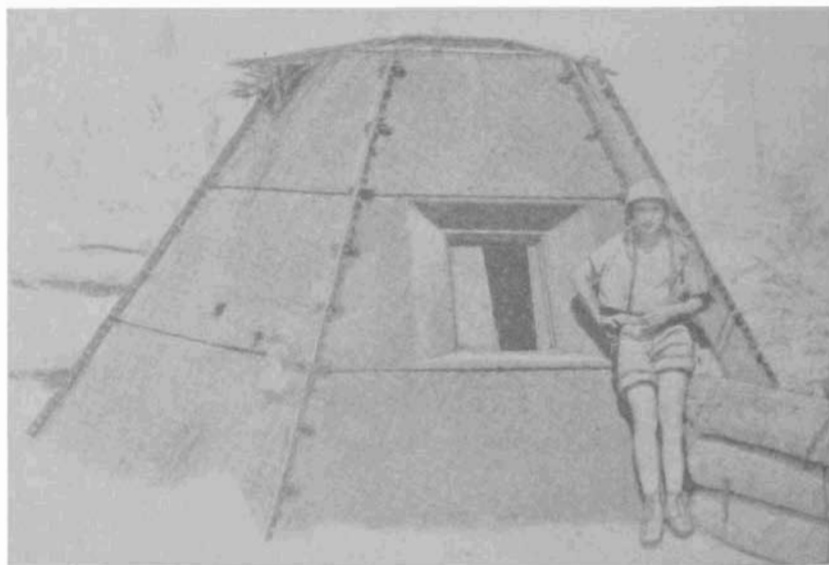


Figure 16.—Japanese Steel-pillbox Command Post (side view showing firing port).

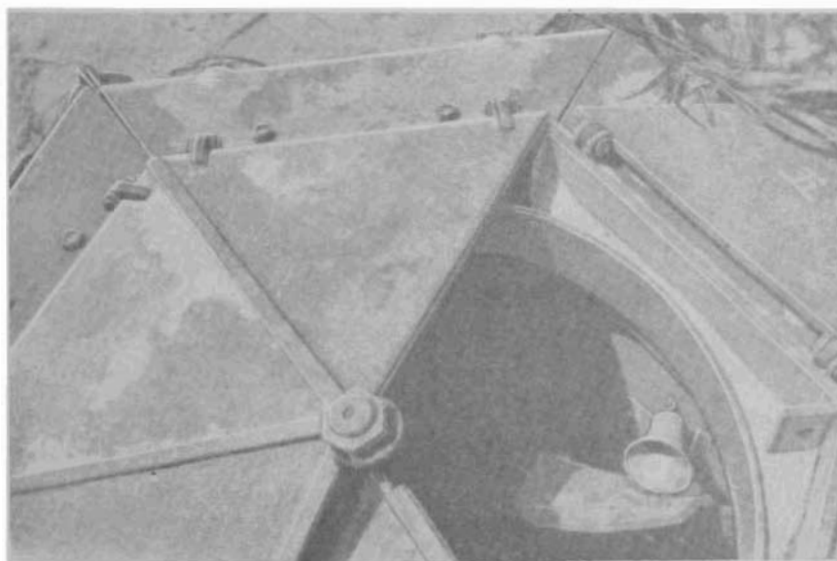


Figure 17.—Japanese Steel-pillbox Command Post (upper—rear view showing entrance; lower—top view looking down into hatch).

These pillboxes were prefabricated, six-sided, truncated pyramids with double walls made of steel (see fig. 16). Both the outer and inner plates were $\frac{1}{4}$ inch thick, and the space between them was filled with sand. In most cases the exterior of these pillboxes was banked with sand or camouflaged with palm fronds.

Inside, these pillboxes were divided into an upper and a lower compartment. The upper compartment was designed for an observer or commander. It had an observation seat, a voice tube, and a hatch, which opened outwards from near the sides. The voice tubes led down into the lower compartment, which apparently was designed to house two machine guns. This compartment had two large ports, one on the left flank and one on the right, and a small peep sight to the front. The large ports were equipped with bracket supports for machine guns, but apparently no machine guns were used in any of the pillbox-command posts on Betio.

One steel pillbox on the south beach was capped with 12 inches of concrete.

The largest reinforced concrete structure on the island was believed to have been the main headquarters. It housed the terminal facilities of radio and telephone equipment, as well as administrative personnel. The reinforced concrete was very thick. The structure was additionally protected by a thick layer of sand on the roof, on which two 13-mm machine guns were emplaced. Apertures were provided in the

walls of the building for the firing of small arms and light automatic weapons, but the primary purpose of the building apparently was to provide shelter for personnel and equipment.

13. SHELTERS

The shelters found on Betio can be broadly divided into two groups: those located in barracks and headquarters areas and those located to serve beach-defense.

Those in the barracks and headquarters areas were designed to protect large groups of personnel during air or surface bombardment. They were constructed of alternate layers of coconut logs and coral sand. Side walls and roofs averaged 5 to 7 feet in thickness. Ventilation shafts were provided, but there were no gun or rifle ports.

Those in the beach-defense areas were designed and used, during bombardment, as standby shelters for personnel who were waiting to man beach positions. These shelters were smaller and not as heavily constructed as those inland. They were located immediately adjacent to defensive positions. Several were constructed of reinforced concrete 12 to 16 inches thick and covered with sand. Others were constructed of logs and sand. They varied in size and design to suit the particular needs of an area. Like the larger structures, the beach-defense shelters were designed for protection, not as prepared defensive positions.

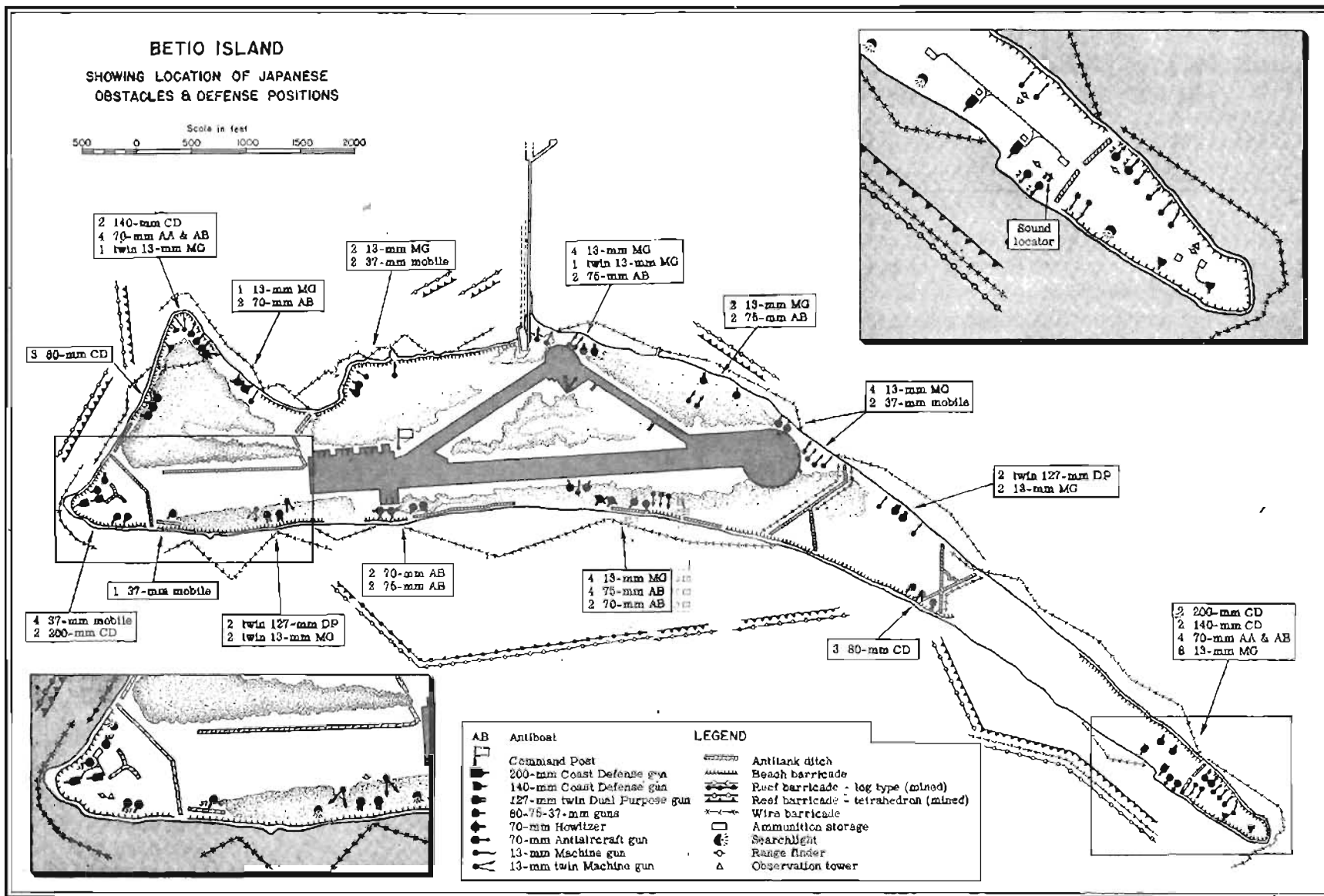


Figure 18.

Section II. HOW JAPANESE DEFENDED HILLY JUNGLE COUNTRY

1. GENERAL

The following notes on Japanese warfare are based on the experiences of United States officers and enlisted men while fighting the enemy in the hilly and mountainous jungle terrain of New Guinea. While these notes should not necessarily be regarded as Japanese tactical doctrine, they should be helpful to United States forces who may meet the enemy on similar terrain in the future.

Generally speaking, in this campaign the Japanese were highly defense-minded except for a few local counterattacks, which were usually staged by a platoon or company. On one occasion the enemy dispatched a raiding party of 100 or more men to infiltrate through the United States lines and demolish artillery positions. The mission failed, with considerable loss to the enemy, after a night-long fight.

As a rule, the Japanese patrolled very little during the campaign, and seemed content to remain concealed

in defensive positions or to stick close to their supply trail.

Most of the Japanese troop movements, reliefs, and withdrawals were executed at night, usually about an hour before daybreak.

2. SECURITY

The Japanese, in this campaign, were frequently careless with regard to security measures. Along their rear trails, they tended to move freely, and with little or no security. United States patrols could often hear enemy groups talking and jabbering several hundred yards away.

Many instances were reported in which Japanese sentries were caught asleep or dozing. Many small outposts of four to eight men were discovered in huddles without lookouts, and groups of two or three walking unarmed along trails near their positions were often taken unaware by United States patrols. When caught off guard under such circumstances, the Japanese were slow to react; they frequently stood or sat for 10 to 15 seconds without moving.

3. POSITIONS

Observers agree that the Japanese did a tactically sound job of selecting and organizing defensive positions. They organized many high ridges, access to which could be gained only by single-file movements. Such ridges, or knolls, were organized with deep dug-

outs for the protection of personnel, and were connected with weapon emplacements by tunnels or trenches.

The emplacements, featuring a generous supply both of light and heavy machine guns, were so well camouflaged that often they were visible only at distances of from 5 to 10 yards. The weapons were sited for cross fire at short ranges along the knife-edge ridges which connected positions.

4. DEFENSE

As had been reported in other campaigns, the Japanese were tenacious in the defense of dug-in and protected positions.

In defending organized positions, the enemy primarily employed grenade dischargers, hand grenades, and machine guns. The latter were usually fired down prepared lanes, and rarely were used for traversing or searching fire. As a rule, the enemy withheld his fire until United States troops were within 10 to 30 yards of his position.

The Japanese usually employed their mountain guns singly, and more than two guns rarely engaged a target at the same time. In these exceptional cases, only a few rounds were fired at a time.

It is interesting to note that in the hilly and mountainous country most of the enemy snipers were found on the ground—comparatively few in trees.

5. WITHDRAWALS

To cover withdrawals from organized positions, the Japanese often fired a large number of mortar shells during the night or just before dawn. They also left the barrels of rifles and machine guns sticking out of emplacements to make it appear that the latter still were occupied.

6. COUNTERATTACKS

The Japanese almost invariably counterattacked when driven out of a position, and when forced to give up terrain vital for the protection of their rear or their supply lines. These attacks were usually made at dusk or shortly after darkness.

As a rule, the Japanese counterattacks were accompanied by wild firing of machine guns and rifles, and by howls, screams, and other noises. The apparent purpose of such tactics was to frighten United States troops, draw rifle and machine-gun fire in order to locate our positions, and to cover the main attack. The latter usually was made by stealth from another direction, with the Japanese crawling as quietly as possible with fixed bayonets to our emplacements or foxholes. Sometimes the enemy tossed grenades at our positions before assaulting with the bayonet, and on other occasions they stormed the positions in waves, led by sword-brandishing officers giving commands. Also, in a few instances, 30 to 40 Japanese made daylight bayonet attacks by simply rushing our posi-

tions. The number of attacks at night varied from one to nine. Intervals between each attack varied from 30 minutes to 1 hour.

7. BOOBY TRAPS

The Japanese left very few booby traps, and these were crudely constructed.

A few grenades, with their fuzes adapted for instantaneous activation, were found buried in emplacements and tunnels. These grenades projected about $\frac{1}{2}$ inch above the ground. The door of one captured truck was wired on the inside to a grenade.

Section III. MOLOTOV COCKTAIL EMPLOYING A FUZE

1. DESCRIPTION

The Japanese have a type of Molotov cocktail which differs from other similar weapons in two main respects, namely:

- a. It has a fuze.
- b. It will fire when thrown against ordinary ground as well as against hard objects.

The weapon consists of a 12-ounce glass beer bottle (which is 9.5 inches high, 2.4 inches in diameter at the base, and 1 inch in diameter at the top), an inflammable liquid compound, and a combined burster and igniter fuze.

The fuze will activate the weapon at any position the weapon may strike a surface—it is called an “all-ways” fuze for this reason. The burster and igniter fuze combination comes in a separate cylindrical metal container, which is 2.45 inches high and 1.4 inches in diameter. It is sealed with gum paper. The fuze is threaded to screw into a metal lining which fits inside the neck of the bottle. A rubber washer enables the bottle to be liquid sealed. The fuze also has a safety pin with an attached string—which is used to extract

the pin before the Molotov cocktail is thrown—and a protective cover.

The Japanese have used at least three kinds of explosive in this weapon. Besides an “inflammable compound,” some have been found with 91-octane gasoline and some with a gasoline and oil combination—75 percent gasoline by volume and 25 percent heavy oil by volume.

2. OPERATION

The following instructions on operation were translated from Japanese sources.

a. Assembling

Fill the bottle with inflammable chemical compound.

Remove the fuze from the fuze container, and, with the fuze-cover still on, screw the fuze tightly onto the bottle.

b. Using

Immediately prior to taking up the approach march for the attack, throw away the protective cover for the fuze.

When about 10 yards from the objective, pull out the safety pin in the fuze, and throw the weapon against the upper section of the motor [presumably of a tank].

The effect will be greater if two or three bottles are thrown in succession.

c. Precautions

After pulling out the safety pin, do not drop the bottle or hit it against a hard surface.

If there is no target after pulling out the safety pin, throw the weapon a considerable distance away, or find some other way of disposing it, as a safety measure.

Section IV. INTELLIGENCE NOTES

1. INTRODUCTION

This section contains information, from Japanese sources, about enemy counterintelligence measures and about enemy methods of handling intelligence. The counterintelligence measures were prepared for a Japanese antiaircraft unit.

2. REGARDING COUNTERINTELLIGENCE

The purpose of the counterintelligence measures outlined by this particular source was "to facilitate our [Japanese] Army's operations by exposing and eradicating Fifth Columnists in the vicinity of antiaircraft-unit positions."

The Japanese issued the following instructions:

- a. Select an officer to take charge of counterintelligence (he may be the unit adjutant or its chief intelligence officer).
- b. Strictly supervise officers' and men's speech and behavior, especially their personal communications.
- c. Strictly abide by regulations concerning private correspondence, and see to it that there are no leaks.
- d. Work for thorough moral training in counterintelligence.
- e. Keep a vigilant watch for fifth-columnist activities, such as raids and infiltrations.

f. Try to secure information from natives about enemy infiltrations by submarine, by parachute, or by air-landing.

g. Keep a strict watch over the activities of neutral foreigners and of Axis nationals in particular.

h. Give guidance to the natives, mainly in order to keep them friendly. Guard against activities of native enemy sympathizers.

i. Watch for even the slightest change in conditions in areas where the enemy drops propaganda leaflets. Keep rumors strictly under control.

j. Properly safeguard (or burn) classified military documents. Be especially careful in handling maps or sketches on which troop dispositions are indicated.

k. Take precautions as to the types of documents carried by aircraft crews, patrols, liaison men, and so forth.

l. Limit printed matter to the minimum number of copies required.

m. Make certain that misprints, original stencil sheets, and waste paper are burned.

n. Report any type of disorder to headquarters, and notify the nearest MP.

3. REGARDING INTELLIGENCE

a. Reliability

The Japanese, according to an enemy source, rate the reliability of intelligence as follows:

A—undoubtedly reliable;

B—probably reliable;

C—for reference, although authenticity is undetermined.

b. Collection

In their "plans for collecting intelligence," the Japanese require that the following points be covered:

- (1) Data for estimating hostile offensive plans;
- (2) Shifts in aircraft units and their movements;
- (3) The state of newly established airfields and their equipment;
- (4) The situation with regard to warships and the movement of supply transport forces;
- (5) The state of signaling and broadcasting;
- (6) Hostile unit numbers;
- (7) The state of airborne raiding forces;
- (8) Propaganda strategy and counterintelligence data;
- (9) The attitude of the natives;
- (10) Activity of hostile elements, especially the source of this activity;
- (11) Men and articles dropped by parachute;
- (12) Existence or nonexistence of hostile radio waves and signals;
- (13) Emphasis on reconnaissance of suitable landing places for airborne raiding forces, suitable airfields, and suitable debarkation points;
- (14) State of communications system; conditions conducive to local self-sufficiency;
- (15) Nature of soil, resources, and land suitable for cultivation; and
- (16) General terrain and weather and atmospheric data.

"Try to capture and make use of hostile natives and prisoners," this Japanese source adds.

Elsewhere certain Japanese units were told to use "enemy methods in the accumulation of intelligence, particularly with regard to taking prisoners and examining abandoned corpses."

With regard to prisoners, a Japanese Army treatise reads:

The capture and questioning of prisoners is a profitable way to collect intelligence. By direct action on our part, we can capture hostile forces with comparative ease.

Therefore, all units—especially those on the front line, as well as sentries and patrols—will take advantage of opportunities to execute surprise attacks, feint attacks, and ruses in general in an effort to take prisoners. If abrupt challenges are unavoidable, prevent the escape of opposing forces by endeavoring to wound or mortally injure them with a sudden blow. Show originality and daring in action. High ranking officers must lead the way and encourage the taking of prisoners.

With reference to searching corpses and handling captured items, a Japanese Army order says:

There are various items on enemy corpses, which are to be searched immediately after battle. The items taken from the corpses—especially documents, diaries, and maps—must be collected for study.

Although, in general, all units have considered the collection of such profitable material, lower units have not yet given it their full consideration. Only abandoned weapons and provisions are being collected. Thus collection of the most valuable intelligence material is being sadly neglected. It may be necessary to detail men from a reserve unit to collect this material.

Captured matériel, except items to be used immediately by front-line units, must be sent back for study, repair, and preservation for future use.

Section V. CAMOUFLAGE NOTES

1. GENERAL

In many respects Japanese camouflage doctrine is similar to ours. Basic points emphasized by the enemy in his camouflage work are presented below. The source is a Japanese Army manual.¹

The introduction to the manual states that:

“The essence of camouflage lies in harmonizing it with the natural conditions of the terrain; therefore it is most important to pay attention to shadows and colors, and to avoid any change from the usual conditions.

“When camouflage methods are inadequate, they sometimes do more harm than good, in that they draw the attention of the hostile forces * * *.

“Since hostile shelling, weather, and the seasons change camouflage or its immediate surroundings, it is most important that it be repaired constantly and kept in good condition.”

The manual recommends that natural camouflage material, such as weeds, vines, trees, branches, and so

¹ Japanese use of camouflage on Attu, as seen by U. S. observers, was described in *Intelligence Bulletin*, Vol. II, No. 2, pp. 39-43.

forth, be used as far as possible. Artificial materials used by the Japanese include nets, screens, canvas, and paint.

2. USE OF ARTIFICIAL MEANS

a. Nets

In arranging nets, the Japanese try to make them conform to the contour of the land. "When hanging out nets," an enemy source states, "do not leave gaps where each net touches the edges. To avoid casting shadows under nets, set up canvases under them * * *. Frames for nets should be as low as possible. Where nets touch the ground, they must be sloped gently."

Particularly in jungle areas, the Japanese have been using nets extensively, not only for personnel, but for weapons, installations, and horses and mules. These nets usually have been garnished with local vegetation so as to blend well with the surroundings.

b. Screens

Screens are regarded by the Japanese as "simple equipment used principally for concealment against ground reconnaissance * * *. Screens also are used to cut off the flash of weapons at night."

In screening long stretches of terrain, installations, or equipment, the Japanese manual warns against connecting the screens into one rigid whole. "Divide the screening at appropriate places in order to localize damage by shell fire," the manual states.

c. Paint

In using paint to camouflage objects, the Japanese manual stipulates that the principal colors should "approximate as nearly as possible the predominant colors of the terrain. Usually the objects should be painted somewhat darker than the color of the surrounding terrain."

d. Miscellaneous

The manual recommends the use of camouflage net frames over peepholes and loopholes when the latter are not being utilized. These holes also are sometimes covered with grass.

Periscopes and similar equipment are camouflaged to represent natural objects.

Before using wire for camouflage purposes, the Japanese recommend that it be smoked in a straw fire to remove its shine and make it more pliable.

3. USE OF NATURAL MEANS

Natural means of camouflage must conform in size and texture to the surroundings, the Japanese manual states, so that they will not "present a peculiar appearance" after being arranged in place. "Before digging into the ground or covering ground with spoil, cut away and preserve the grasses and weeds for future camouflage use."

The manual adds that grass may profitably be hung on wire as a disguise of a grass thicket.

In many instances the Japanese have camouflaged pillboxes, bunkers, dugouts, and other similar installations with live grass, which was sown or transplanted. Several times it has been reported that the enemy has used rice-straw bags filled with fertile dirt for defensive covering, and has planted unhulled rice seeds, or seeds of a similar plant, on top of the bags to secure a green growth which blended well with the surroundings.

4. USE OF DUMMIES

“Dummy installations,” the Japanese manual states, “are built to present the same external appearance as real construction, and camouflage is always applied.

“In simulating trenches, and so forth, make them look as real as possible. Their depth must be at least $2\frac{1}{2}$ feet. Make the sides steep, and spread dark-colored grasses on the bottom.

“In simulating an open-air shelter, construct it in generally the same way as a real shelter; if necessary, imitate only the external shape, or hang out a camouflage net and lead dummy traffic paths to it.

“Dummy covered shelters and dugouts should have such real features as loopholes, peepholes, covering, and entrances.”

PART TWO: GERMANY

Section I. MILITARY LEADERSHIP, AS THE GERMANS SEE IT

1. INTRODUCTION

Several months ago the commanding officer of the Third Panzer Grenadier Division assembled extracts from two German Army manuals, one dealing with military leadership and the other pertaining to the training of officers, and ordered that they be distributed as a single booklet to the officers of his command. In a foreword the commanding officer said, "This booklet should always accompany my officers. It should become an indispensable possession. I expect them to take it out again and again, and study it until its contents have become a guide for their lives and actions. It should force them to test themselves, over and over, to see whether they are adequately prepared to meet the high—and often merciless—demands which will be made upon them.

"The longer the war lasts, and the more difficult conditions become, the more decisive the work of the officer will be, and the greater his responsibilities.

“In full recognition of this, and with the recollection of our oath and the example of our comrades who died at Stalingrad, it can no longer be difficult to find the surest expression of our duty: to show our men how to live, which means, after all, to show them how to die.”

In any attempt to gauge the enemy, it is particularly useful to know the broad principles with which he has been indoctrinated. The extracts which follow are therefore of the utmost significance.

2. THE GERMAN VIEW

“a. Warfare is an art, free and creative, based on science. It demands the utmost of each person.

“b. Warfare is subject to continuous development. New technical devices give it a continuously changing form. Their introduction must be recognized ahead of time, their influence properly evaluated and quickly applied.

“c. Situations in war have unlimited variations. They change frequently and suddenly, and cannot always be properly anticipated. Incalculable factors are often of decisive influence. One's will is opposed by the independent will of the enemy. Friction and mistakes are daily occurrences.

“d. The science of warfare cannot be compiled exhaustively in rules and regulations. The principles which form this science must be applied as conditions require. Simple actions logically executed are the best way to success.

“e. War taxes and tests an individual’s physical and emotional powers most rigidly. Therefore, in war-time, character is more essential than pure mental ability. Many a man, overlooked in peacetime, has become great on the field of battle.

“f. Leadership in the German Army, and particularly in lower units, must be entrusted to personalities who are capable of sound judgment and clear perception of immediate and possible future situations—men who are self-reliant and firm in their decisions, persevering and energetic in executing them, indifferent to the vicissitudes of war, and intensely aware of the high responsibility resting upon them.

“g. The officer is a leader and educator in all fields. Aside from having the ability to size up his men, he must possess superior knowledge and experience, a sense of moral responsibility, and a sense of justice. He must excel at self-discipline and courage.

“h. The example and personal bearing of the officer and soldier in charge of men are of decisive influence on the troops. Officers who show coolness, resolution, and daring in face of the enemy carry their men with them to success. But they must also find the way to the hearts of their men and win the prize of their confidence by untiring care and an understanding of their thoughts and feelings. Mutual confidence is the safest guarantee of discipline in moments of emergency and danger.

“i. Every leader must commit his whole self in all situations, without fear of responsibility. This cheerful acceptance of responsibility is one of a leader’s most noble qualities. However, it must not be interpreted as a license to make independent decisions without regard for the unit as a whole, to neglect carrying out orders with painstaking exactness, or to substitute for obedience an attitude of the ‘know-it-all’. Self-reliance must not be corrupted by mere arbitrary judgment. Exercised within the proper limits, it can become the basis for great success.

“j. The value of a man is still decisive in spite of all technical inventions. Present-day tactics of scattered fighting have increased his significance. Modern battle requires fighting men who can think and act for themselves, who exploit each situation resolutely and boldly after due consideration, and who are permeated by the conviction that success depends on each individual.

“Great physical endurance, ruthlessness with oneself, will power, self-confidence, and daring enable a man to cope even with the most difficult situations.

“k. The value both of leader and man determines the combat efficiency of the unit. The efficiency is augmented by a high standard of quality, care, and condition of arms and equipment. Superior combat efficiency can outweigh numerical superiority. The higher the combat efficiency of units, the greater the possibility of conducting forceful and mobile opera-

tions. Superior leadership and combat efficiency of a unit are the most reliable guarantees of victory.

“l. Leaders must live with their troops and share with them their danger and hardships, their joys and sufferings. Only in this way can they gain from their own experience a sound judgment of their combat efficiency and their needs and requirements. Every man is responsible, not merely for himself, but also for his comrades. The more capable and enduring must lead and direct the weak and inexperienced. Such is the basis from which a feeling of genuine comradeship may develop. This is as important between the leader and his men as it is among the men themselves.

“m. A unit which has been formed only superficially, and which has not been welded together by hard training and education, may easily fail at critical moments or under the impact of unexpected events. Therefore, from the outset of a unit's training, extreme importance must be attached to promoting and preserving strong community ties, as well as to discipline.

“It is the duty of every commander to counteract immediately—and severely, if necessary—any laxity of discipline, and any tendency toward riotous conduct, plundering, panic, or other harmful influence.

“Discipline is the main pillar of the German Army. Its strict enforcement is a blessing for all.

“n. The fitness of a unit must be preserved for those decisive situations which require supreme effort.

Leaders who exert their troops unnecessarily, impair their own chance of success. In combat, any expenditure must remain in proper proportion to the desired objective. Objectives which are impossible to attain should not be set, for they lower the confidence of the men in their leader and are detrimental to the morale of the unit.

“o. From the youngest soldier on up, every individual must commit his entire emotional, physical, and mental strength to the mission at hand. Only this endeavor can insure the utmost efficiency of the unit in coordinated action and can create men who will, in the hour of danger, lead the weak to bold action.

“Thus, determined action remains the foremost requirement in warfare. Everyone, the highest commander and the youngest soldier, must always be conscious of the fact that the burden of negligence weighs more heavily than a mistake in the choice of means.”

Section II. A PREPARED DEFENSIVE POSITION IN ITALY

A German prepared defensive position near Sipicci-ano, in Italy, affords a useful illustration of certain methods currently employed by the enemy. A force estimated to be a battalion occupied the position, in the preparation of which a number of German defensive principles had been observed.

The position, which covered a road leading from the village of Cici to the Garigliano River, was protected to its front by two double-apron barbed wire fences, 30 yards apart, running through an olive grove. Tellermines and wooden box mines had been laid between the fences and in a strip about 50 yards wide immediately in front of the forward fence. The road, which ran through the position, also was mined with Tellermines and wooden box mines.

Nearly all the individual enemy positions faced in one of two directions, east or southeast. There was a definite and surprising lack of any attempt at all-around defense, and positions had unprotected sectors ranging from 90 to 100 degrees.

For the most part, the individual positions were mutually supporting. They had excellent fields of

fire, which were easily obtained because of the nature of the terrain. Some positions were in the olive grove, while others faced pasture land. There was very little scrub growth or other hindrance to vision. In the olive grove the positions were sited so as to afford an unobstructed field of vision between the ground and the lowest branches of the trees.

Individual positions were protected against frontal attack by means of short narrow belts of antipersonnel mines and trip wires 30 to 40 yards forward of the positions and just beyond effective hand-grenade range. [In a number of other instances, however, the Germans have been known to place a belt of mines within hand-grenade range so as to take advantage of any confusion which might result from the detonation of the mines.] These defensive measures did not cover the flanks or rear of the positions.

Elaborate precautions had been taken to protect the defenders against bombardment by aircraft or artillery. Firing positions were from 3 to 4 feet deep, and were well camouflaged overhead and to the front. Several small-arms positions were of the trench type, while others had overhead cover and a rear entrance. Shallow crawl trenches connected most of the firing positions with dugouts, which served as living quarters. These dugouts were well constructed, and were roofed with tree trunks, planks, and sandbags filled with earth. In some instances the entrances were zigzagged. Revetting was generally very good. Barbed wire, of the type employed for apron fences, was also used in revetments and to support camouflage material.

Grenades, both the stick-type and the egg-type, were kept on the parapets. Many of the grenades were still in place when the position was taken. The caps of the stick-type grenades were unscrewed, and the china marbles were exposed and ready to be pulled.

A mortar had been emplaced in a circular emplacement, protected by breastworks. It was situated behind a clump of low trees. Ammunition, which was plentiful, had been stored in a separate dugout about 10 yards from the mortar emplacement.

Antitank guns were well camouflaged and had excellent fields of fire. They were emplaced in shallow dug-in positions. Dugouts for the crews were nearby, and the men also had short trenches, about 3 feet deep, next to their guns. Ammunition was stored partly in shallow trenches near the guns and partly in caches dispersed in the vicinity of the dugouts. Antitank-gun positions were usually protected by machine-gun sections (two guns each) covering the areas to the front and at the flanks, but not to the rear. It is probable that alternate machine-gun positions covering the rear had been chosen, but no prepared alternate positions were found. Antitank guns were sighted so as to fire down the probable axis of advance, rather than the flank.

Company headquarters had a wire connection with headquarters. The wire, approximately a mile and a half of which had been laid, was in an open trench about 6 to 8 inches deep and 4 inches wide. In places the wire had been covered with stones.

Apparently the enemy had not used any of the buildings in the vicinity. Track discipline, incidentally, had been good.

United Nations forces avoided frontal assault on this strong position by attacking and seizing high ground on which a flank of the enemy defense area had been anchored. After capturing this hill, the United Nations forces struck for the Garigliano River to cut off the enemy in the prepared defensive position. They were successful in seizing the crossings, but the Germans escaped by swimming the river. The hasty nature of the retreat is substantiated by the German failure to evacuate equipment and supplies. Eight antitank guns, some undamaged, were left behind. Further evidence of haste is shown by the enemy's failure to carry out prepared demolitions of bridges along the road leading from the position to the river.

To summarize:

1. Minefields, covered by small-arms fire and anti-tank fire, and supplemented with barbed wire, were used to block the expected axis of attack.
2. Positions were dug in, and were well camouflaged to the front and overhead.
3. Antitank-gun positions were protected by anti-personnel mines and small arms.
4. Protected sleeping quarters were provided.
5. No provision was made for all-around defense.
6. Fields of fire were excellent.
7. The flanks of this strong defensive position constituted its chief weakness.

Section III. A GERMAN COMPANY IN THE DEFENSE

1. INTRODUCTION

Recently a Panzer Grenadier company commander, troubled by the loss of life and matériel that his unit had been suffering in Italy, made an effort to alter certain methods that his men had been employing in the defense. His attempt is significant, in that it is an instance of a German commander undertaking hastily to revise his company's practice, in the light of experience freshly acquired in fighting United Nations forces. Much has been said about the rigidity of German junior leadership in the field, and not enough, perhaps, about its adaptability. The illustration at hand shows how a German junior officer tried eleventh-hour measures in the hope that his unit might avoid further reverses.

2. THE COMPANY COMMANDER'S INSTRUCTIONS

a. It was stated that, since a creeping barrage always preceded an attack, this type of fire was to be a signal for each man to go at once to his alert station and make a further brief check of his weapons.

b. Even during the barrage, every man was to keep a continual lookout, frequently raising his head above the parapet. This was described as particularly important when the fire moved, or "lifted", because, it was said, a hostile advance would follow the barrage closely, and the opposition would use mortar fire and grenades for purposes of deception.

c. When the attackers arrived in close proximity to the position, special attention was to be paid to any cover or dead space within hand-grenade range. Hand grenades were to be used against any hostile soldiers who might succeed in reaching such places.

d. The first section to discover that a hostile attack was in progress was to send a reliable, speedy runner to platoon headquarters by the safest route. It was stressed that speed was essential if the heavy weapons were to give proper support.

e. It was ordered that the position be held at all costs. Every man was to stay at his post and fight. A single well-aimed rifle shot was to be regarded as more worthwhile than a badly placed burst of machine-gun fire.

f. The dispatch of a runner was not to be considered necessary when a Very pistol was available. The following signals were to be employed:

Red.....	Attack by hostile force.
Green.....	Artillery barrage has lifted.
White.....	We are here.
Violet.....	Tank attack.

[It should be remembered, of course, that all German signals may be changed frequently.]

g. It was stated that platoon headquarters should have sufficiently good observation to enable the platoon commanders to keep up with the situation and to insure against any hostile attack achieving surprise.

h. Platoon headquarters were to be turned into strong points, so that a hostile force could be engaged at any time from the depths of the position. A reminder as to the effectiveness of enfilade fire was added.

i. It was ordered that, if the next hostile attack were to be made at night and with armor, the forward sections were to fire with everything they had, while the best hand-grenade throwers were to be assigned for this specific duty. It was pointed out that the resulting damage to the opposition's morale might serve to halt the advance.

Section IV. SOME NOTES ON GERMAN MOUNTAIN WARFARE

1. INTRODUCTION

An article entitled "Combat in High Mountains and Extreme Cold," which appeared in *Intelligence Bulletin*, Vol. I, No. 2, discussed certain aspects of German mountain warfare; the material presented below, however, is of much more recent origin, and includes methods not discussed previously.

2. THOROUGHNESS OF PREPARATION

German Army units trained in mountain warfare are committed to the principle that thorough preparation is the key to success. All possible information regarding terrain is obtained and evaluated in ample time before an operation. Local inhabitants are not overlooked as sources of information. Maps are studied with the greatest care, and altitude differences, wooded areas, and trails and short cuts are noted particularly. In studying the objectives, and the routes leading to them, the Germans make every effort to choose "unexpected" ways of reaching an objective,

so as to insure the element of surprise. (This idea was employed with remarkable success in Norway, where the Germans deliberately chose to move by routes locally regarded as almost impassable.)

3. RECONNAISSANCE

In mountain warfare the Germans believe in holding a higher unit, such as a battalion or regiment, responsible for reconnaissance. It is generally performed on foot. The Germans, recognizing that it must necessarily be slow and that guerrillas are likely to be encountered, send out reconnaissance patrols large enough, and appropriately equipped, to engage in combat. Sometimes units as large as a company are sent out for this purpose. The exact size is, of course, determined by the nature of the mission. It is interesting to note that in general the Germans believe in restricting reconnaissance to paths, trails, and other "passable" terrain, even though routes of an "improbable" type may later be considered for tactical surprise. Reconnaissance patrols are equipped with radio.

4. COMBAT NOTES

a. Dispositions and Tactical Movement

(1) In mountainous terrain the Germans assign more troops for defense action than they assign for offensive action.

(2) The Germans believe in a wide front subdivided into areas assigned to assault groups (where attack is

contemplated) or strong points (where defense is contemplated).

(3) Personal resourcefulness is stressed. Noncommissioned officers are encouraged to act decisively, since it often happens that the smallest unit is faced with the necessity of determining a course of action.

(4) The Germans give a great deal of thought to the placing of reserves. They realize that the task of sending reserves where, and when, they are needed is almost certain to be complicated by the terrain factor. Therefore, they try to prepare for all possible eventualities when they place their reserves.

(5) In the attack, the units are strongly organized in depth. They advance sector by sector. Units are told that once such moves have been made, withdrawal cannot be undertaken.

b. Heavy Weapons

(1) "Fewer heavy weapons and more ammunition" is a German principle in mountain warfare.

(2) It is a German policy, after a penetration, to avoid moving heavy weapons forward until proper positions for effective fire in the new situation can be determined.

(3) Heavy weapons are used on the flanks of the forward lines.

c. Fire

(1) The German view is that forces can be concentrated for the main effort only by means of signal communication.

(2) Since ammunition supply presents a difficult problem in mountain warfare, the usual German procedure is to fire only on orders. Single rounds are aimed with the greatest care, for considerations of economy as well as effect.

Section V. GERMAN CLOSE-ORDER DRILL

Figure 19 illustrates the methods of executing a number of commands in German close-order drill, which differs in a number of respects from that used by the United States Army. All German soldiers are accustomed to these commands, which are listed below, together with a pronunciation guide. The unit depicted in figure 19 is a basic German squad of nine men (usually commanded by an *Unteroffizier*, a rank roughly equivalent to the U. S. corporal).

THE COMMANDS	HOW TO PRONOUNCE THEM
" <i>Marschordnung rechts ohne Tritt— Marsch!—Im Gleichschritt!</i> "	1. "Marsh-órd-noong REKTS oh-neh tritt, MARSH! Im glýke- shritt!"
" <i>In Linie zu einem Gliede links marschirt auf—Marsch! Marsch!— Im Gleichschritt!"</i> "	2. "In léen-yeh tsoo éye-nem glée- deh linx mar-shéert owf, MARSH-MARSH! Im glýke- shritt!"
" <i>Reihe rechts!"</i> "	3. "Rý-uh REKTS!"
" <i>Links schwenkt—Marsch! Gerade aus!"</i> "	4. Linx shvenkt, MARSH! Gráh- deh owss!"
" <i>In Marschordnung links mar- schirt auf—Marsch! Marsch!"</i> "	5. "In marsh-órd-noong linx mar- shéert owf, MARSH-MARSH!"
" <i>Links schwenkt—Marsch!—Gerade aus!"</i> "	6. "Linx shvenkt, MARSH! Gráh- deh owss!"

THE COMMANDS

"Reihe rechts!"

*"In linie zu einem Gliede rechts
marschirt auf—Marsch!
Marsch!—Im Gleichschritt!"*

"Links um!"

"Abteilung halt—Links um!"

HOW TO PRONOUNCE THEM

7. "Rý-uh REKTS!"

8. "In léen-yeh tsoo éye-nem glée-
deh rekts war-shéert owf,
MARSH-MARSH! Im glýke-
shritt!"

9. "Linx OOM!"

10. "Opp-tie-loong HAHLT! Linx
OOM!"

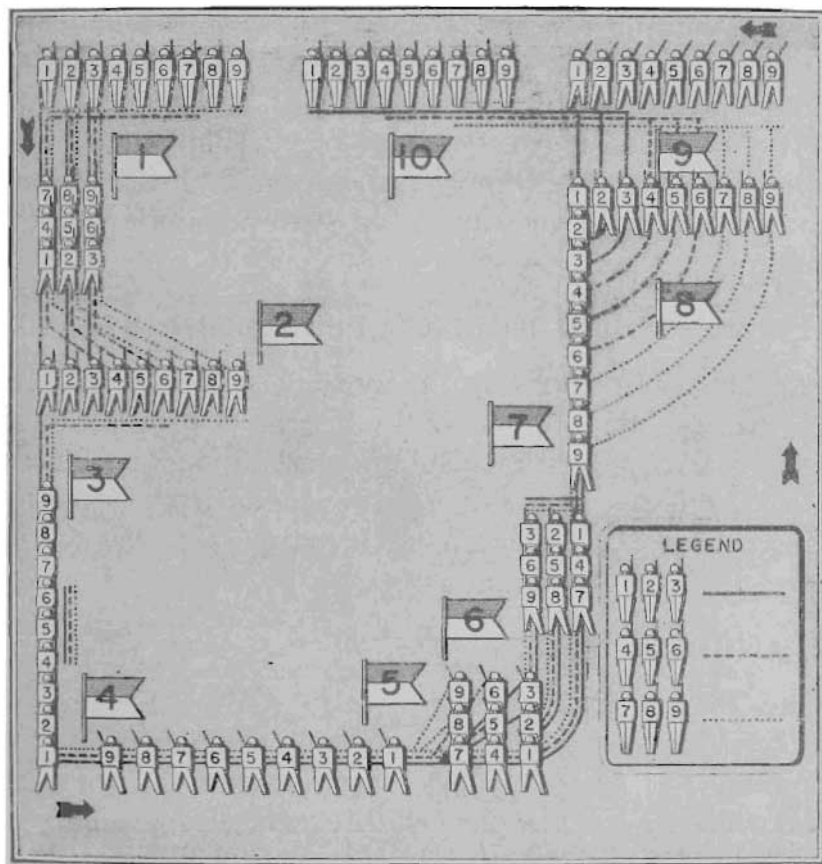


Figure 19.—German Close-order Drill.

Section VI. MORE GERMAN OBSTACLES

Outstanding types of barbed-wire obstacles and concrete antitank obstacles now used by the Germans in continental Europe were discussed in *Intelligence Bulletin*, Volume II, No. I, pp. 40-50. It is believed that the following additional information regarding German defensive preparations in Europe similarly warrants attention.

1. WIRE AROUND PILLBOXES IN WOODS (see fig. 20)

Pillboxes in woods are likely to be protected by wire obstacles about 50 yards in depth, with plain and barbed wire irregularly interwoven among the fences. Also, pillboxes in woods may be screened by wire netting, about 7½ feet high, with firing apertures at the level of the pillbox embrasures.

2. ANTITANK DITCHES

a. The antitank ditch shown in figure 21 serves as a delaying obstacle or as a trap, depending on the depth. The Germans have been tending to increase the width and depth of such ditches. Many ditches in France now exceed the 13-foot width illustrated in

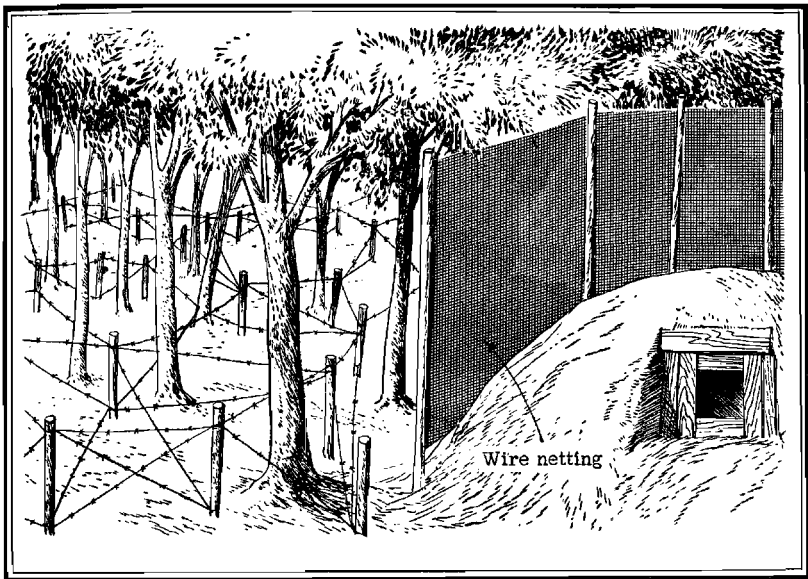


Figure 20.

figure 20. The sides of these ditches are sometimes revetted.

b. The Germans consider “asparagus ditches”—or “fishbone ditches,” as they are also called—useful in ground which is likely to be rather moist (see fig. 22). It is a German principle to mine the spoil used in the parapets.

c. The type of ditch illustrated in figure 23 is revetted with logs. The spoil is used to form a parapet on the German side, while the depression itself is filled with an apron-type barbed-wire fence.

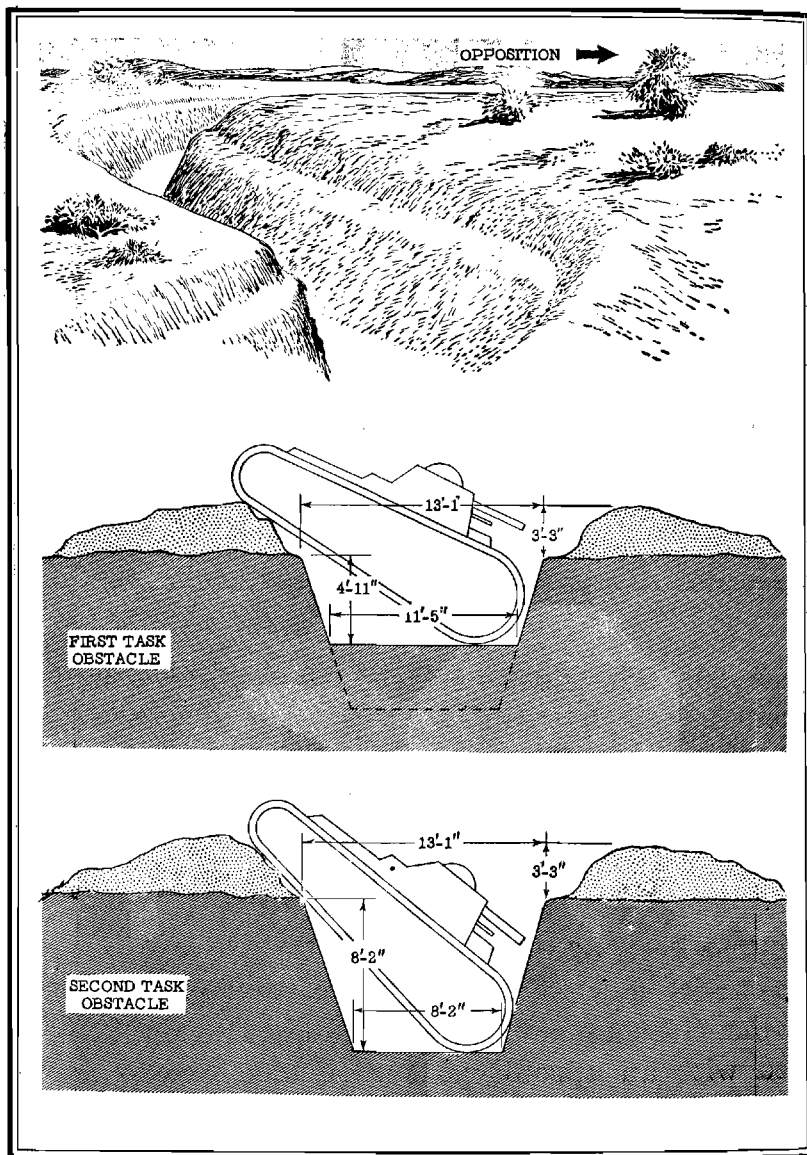


Figure 21.

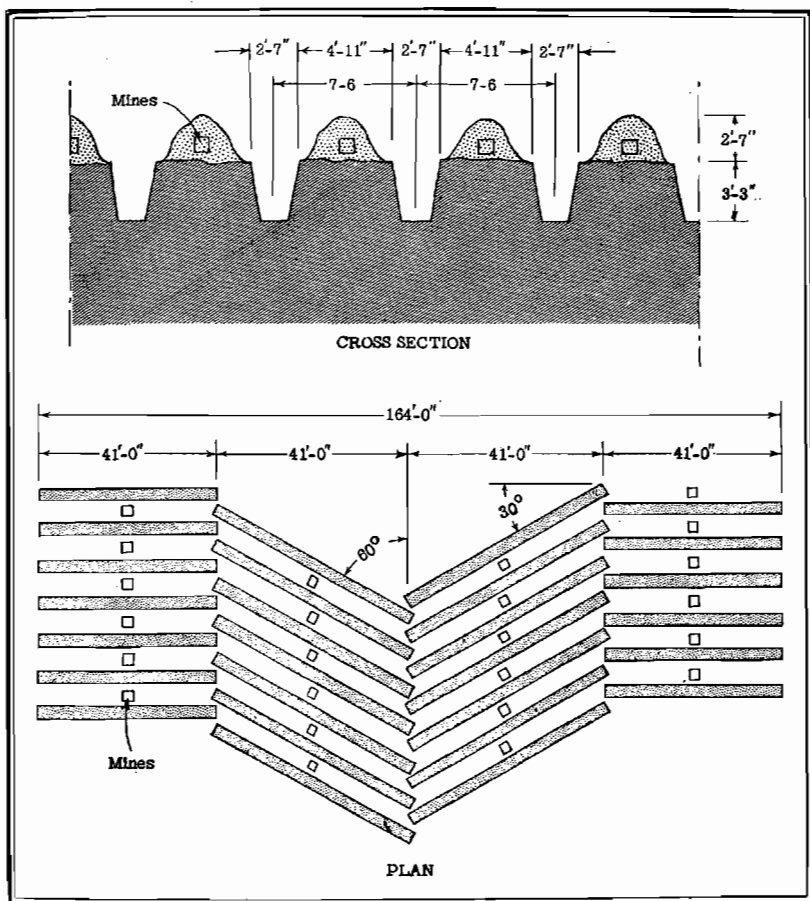


Figure 22.

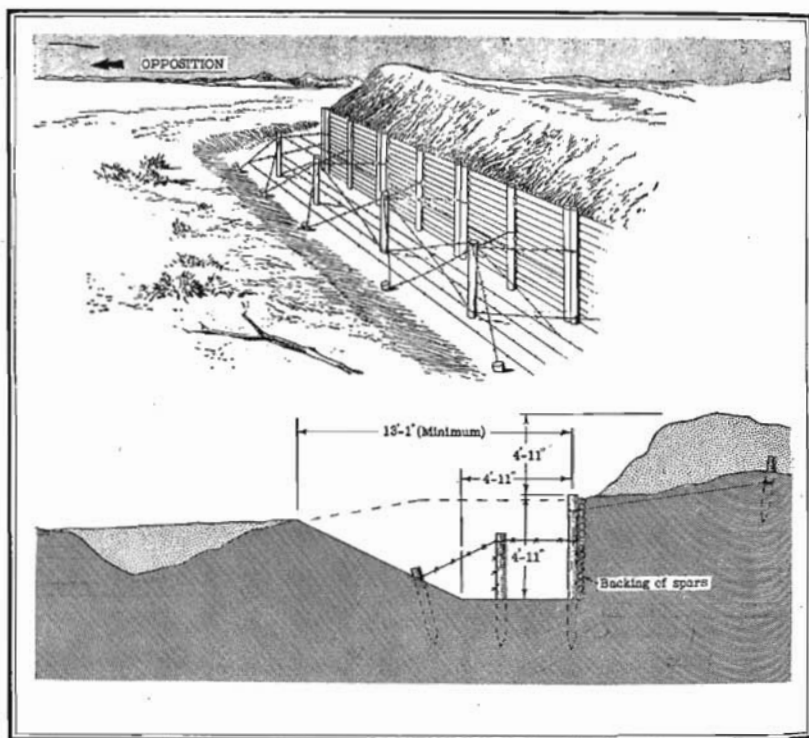


Figure 23.

Distribution:
C and H (2).

(For explanation of symbols see FM 21-6.)



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APRIL 1944

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MILITARY INTELLIGENCE DIVISION
WAR DEPARTMENT . . . WASHINGTON, D. C.

MILITARY INTELLIGENCE DIVISION

War Department

Washington 25, D. C.
April 1944

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It is recommended that the contents of this bulletin be utilized whenever practicable as a basis for informal talks and discussions with troops.

★

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PART ONE: GERMANY

Section I. RECENT TACTICS AND RUSES IN MOUNTAINOUS TERRAIN

1. INTRODUCTION

The Germans have been showing decided originality in exploiting rugged, rocky terrain in Italy. Since terrain of this type is common to many parts of Southern Europe, and is very likely to favor the defenders, certain enemy defensive methods employed under such conditions are examined here.

2. DEFENSIVE METHODS IN ITALY

a. In the Mountains North of Venafro

From a river valley 600 feet above sea level at Pozzilli, the mountains rise to an elevation of 2,300 feet, 3,000 yards north of the town, and to an elevation of 2,115 feet, 2,000 yards west of the town. Between these masses are ravines and terraced slopes. The mountains, or high hills, are crisscrossed with rock walls, and there are small olive groves here and there. The rock walls protect Roman trails, roughly paved with

stone, which traverse each cultivated section and link farms and villages. Apart from the rock walls and olive trees, there are only barren slopes.

The Germans attempted to deny United Nations forces access to the hills and to the valley entrances beyond Pozzilli. It was the enemy intention to make it necessary for opposing troops to expose themselves by moving across open slopes or to be canalized in ravines.

Most of the German automatic weapons were forward. The riflemen were behind them, removed from direct fire and ready to counterattack. Weapons were grouped, and each section was protected by bunkers and provided with prepared shelters.

The German shelters in this area consisted of dugouts reinforced with rocks, boards, and earth. The rock covering was sufficiently well extended along the front and sides to blend with the rocky terrain and thereby provided excellent camouflage. These shelters were large enough to accommodate from two to five men. Whereas the smaller shelters merely had straw for bedding, the interiors of the larger and more elaborate positions were revetted with boards and contained bunks. Some of the dugouts were strong enough to withstand direct mortar and light artillery fire.

Gun positions were situated near the shelters. There was nothing strikingly unusual about the emplacements. Some had a small amount of overhead cover. All automatic weapons were protected by a few rifle-

men, who also acted as observers and as sentries along the trails.

German weapons were sited so as to cover the exposed slopes of hills with interlocking bands of fire, to cover hollows between hills with cross fire, and to place direct fire down each trail, ravine, or gully. In addition to having a primary fire mission, each position was so situated as to cover an adjacent position and to support its fire. The network of rock walls protecting the Roman trails enabled the defenders to move troops, shift the zones of action, and, in general, to conceal many kinds of activity from hostile observation. Protected by these walls, German riflemen continually harassed the attackers with machine-pistol fire and hand grenades.

It required very close observation to detect the exact location of German weapons and their fields of fire.

German camouflage discipline was excellent, and in forward areas there was a decided lack of visible movement by daylight. The simplicity of the German positions resulted in such an effective blend with the rocky terrain that they presented a remarkably natural appearance, even to air observation.

The German riflemen who had been withheld for use in counterattacks were employed for that purpose throughout the operations. At no time, however, was a counterattack made in greater strength than that needed to regain a very limited objective. Because of the rock walls shielding the trails, it was very dif-

difficult to be sure of the German point of main effort (*Schwerpunkt*) until after an attack had developed.

One night counterattack in particular is of interest, involving, as it did, an unusual ruse. Two or three Germans armed with machine pistols drove a herd of goats into the right flank of a battalion position. Under cover of the resulting noise and confusion, the main German effort was launched against the left flank of the same battalion position. At first, the ruse was successful. The counterattack was repulsed only after a bitter hand-to-hand fight.

Throughout the German defense of the Pozzilli area, German artillery placed intermittent harassing fire on zones not completely covered by small-arms fire. Evidence suggests that this harassing fire was not observed, but, rather, that it was prearranged and that the Germans had secured their firing data before United Nations troops attacked. The Germans laid down only one heavy barrage during the entire action.

b. In the Monte la Difensa Area

(1) In the Monte la Difensa area (which is about 8 miles southwest of Venafro), an unusually high percentage of German infantry was found to be armed with machine pistols. The enemy also used the MG 42. Both the machine pistol and the MG 42 have a very high cyclic rate of fire, which permits easy distinction between German and friendly automatic weapons. Many rifles equipped with flash hiders were employed.

(2) An unusual German method of mortar and artillery fire control was encountered in this area, where the terrain is rugged and rocky, with a number of natural caves and clefts in the mountainside. The Germans improved these clefts and used them as dugouts, camouflaging each opening so that it blended with the terrain and constructing a protective barrier across the front. In some instances, dugouts were occupied by only one man, who was supplied with enough ammunition, rations, and water for several days. The occupant was armed with a machine pistol, and was supplied with tracer ammunition. As the attack progressed toward the German position, the supporting troops withdrew, but the occupant of the shelter remained in place. When he observed a promising mortar or artillery target, he fired a round of machine-pistol tracer at, or over, the target. Usually this procedure was undertaken by two of the posts; as a result, the target was indicated by the intersection of tracer fire. This tracer fire served both as the call for mortar and artillery fire and as the control.

The observers kept their positions secret as long as they possibly could, firing only an occasional round for effect and never engaging targets for their own personal defense, except as a last resort.

Some of these observation posts were provided with escape routes, while others permitted no easy exit. In the latter case, the observer would remain at his post until he was killed or captured. It is significant

that at least one of the dugouts was equipped with radio.

(3) The Germans had mortar and artillery firing data covering existing trails, but these calculations were upset when the attackers used new trails up the mountains. The enemy made a special effort to place fire on United Nations soldiers who bunched up. Enemy observers did not call for artillery or mortar fire on two or three men, but when they observed a dozen or more soldiers close together, they called for fire to be placed on them immediately.

(4) The enemy used ruses to locate United Nations positions. Sometimes German soldiers would deliberately expose themselves by needless movement, with the obvious intention of drawing fire. If United Nations soldiers revealed their position by firing, they themselves promptly received mortar fire. On the other hand, the Germans were susceptible to trickery, and on one occasion even fell for the old ruse of a helmet on a stick.

(5) The Germans tried to avoid combat at night. This generally has been the case throughout the Italian campaign. The enemy usually depended on mortar and artillery fire to halt night attacks, and tended to become confused when such attacks were pressed.

(6) The Germans employed the "white flag" ruse several times. On the first occasion, enemy soldiers in covered positions fired on a United Nations junior officer who went forward to accept a prisoner advancing under a white flag. After that, whenever the

ruse was attempted by the Germans, it failed when the attackers themselves remained motionless and ordered the bearers of white flags to keep moving forward.

(7) A controlled minefield was encountered in the Monte la Difensa area. Tellermines were rigged with pull-devices, with wire leading to the German positions. In this way the enemy could detonate a mine when United Nations troops approached, even though there was no physical contact between the attackers and the device.

(8) A German prisoner stated that his company was divided into two platoons, one of which worked as snipers while the other served as a combat patrol. Although no enemy patrols were encountered, it is quite probable that they existed; if they actually operated, it is likely that they were so dispersed and had to cover such a large area that they stopped functioning as units and worked as individual observers. The rugged terrain may well have been responsible for this.

Section II. CAMOUFLAGE AGAINST AIR OBSERVERS

1. INTRODUCTION

This section complements "Camouflage Against Ground Observers," an article which appeared in a previous issue of the *Intelligence Bulletin* (Vol. II, No. 5, pp. 25-32). As that article pointed out, a single camouflage undertaking may deceive both air and ground observers with equal success. However, although the Germans believe that camouflage against United Nations air observation is the primary consideration, they stipulate that at the front it must be closely tied in with camouflage against ground observers. In connection with the following German precautions against hostile air reconnaissance, it should be noted that German camouflage activity and discipline in Italy has thus far been notably good. The commander of any German unit, however small, is supposed to be capable of developing a successful camouflage scheme, using whatever materials he can find locally. The Germans leave much to the individual, who generally is expected to improvise his own camouflage devices. Aside from sniper suits and snow

suits, little except ungarnished nets, helmet nets, and occasionally paint is issued to the individual soldier.

2. DURING MOVEMENT

a. Although every effort is made to undertake general troop movements only at night or under conditions affording bad visibility, elaborate camouflage measures are observed when daytime movement is ordered for tactical or technical reasons. These measures are maintained through the night as well, for greater security. Units are brought in small numbers from camouflaged assembly areas to the point from which they are to move. No delay is permitted. In movement by rail, canvas-covered frames are erected on flat cars carrying guns, tanks, and so on, to duplicate the appearance of box cars. When movement is conducted on roads, halts and rests are timed with due consideration for making the most of natural cover. Motorized units often go some little distance in search of woods or orchards. If no natural cover is available, efforts are made to fit in with the natural pattern of the terrain, as seen from the air.

b. A night ruse prescribed by the German Army involves the spacing of partly dimmed lights at regular intervals along a road, to draw the attention of hostile night reconnaissance away from an actual German column which is moving in complete darkness.

c. To avoid conspicuous crowding at bridges, narrow passes, and so on, vehicles are stationed in readi-

ness under the nearest cover, and then are sent through one by one or in small groups.

d. In order to deceive as to the exact places where river crossings are to be made, "false crossings" are initiated at other places either before or during actual crossings. A certain amount of actual bridging material, smoke, and sound effects is employed to make the ruse all the more convincing.

e. As part of track discipline, vehicles are prohibited from taking short cuts, and individuals are forbidden to shape fresh footpaths, in the vicinity of any area where movement is to halt and where a camouflage plan is to go into effect.

Emergency roads and paths follow close to ditches, the edges of fields, the banks of lakes, rivers, or creeks, and the edges of gullies.

3. IN BIVOUAC

a. In towns the Germans make a great effort to park guns, tanks, and vehicles under cover. When this is impossible, irregular dispersion is carried out in courtyards and gardens, beside walls and hedges, and under trees. Tents are similarly screened. Artificial camouflage material is used to improve weak points.

The Germans make good use of the camouflage opportunities presented by destroyed or burnt-out villages. Personnel, vehicles, weapons, and supplies are concealed in the ruins with great care so that very little artificial camouflage need be added.

b. Outside towns and villages, bivouacs are situated as far as possible in woods having thick foliage. Tree tops are bound together, and roofs of foliage are constructed, to conceal open patches.

c. In open country, bivouac tents are pitched in valleys, ditches, gullies, quarries, as well as under overhanging rocks, and beside any fairly high natural growth that can be found. If natural cover is totally lacking, tents are pitched far apart and irregularly, and vehicles are dug-in and camouflaged.

The Germans make a great point of not allowing equipment to remain in plain view. Similarly, all such items as empty tin cans, discarded bits of paper, and other waste are carefully kept out of sight.

4. IN COMBAT

In combat, responsibility for maintaining camouflage discipline rests almost entirely in the hands of the individual German soldier, who is very good at utilizing shadows, woods, ditches, scrub growth, gardens, and field crops for concealment. He uses local vegetation to camouflage his person, and is expert at advancing by crawling. Reports from Italy emphasize the ability of the German soldier to lie quietly in one spot for hours at a time, and then methodically to resume his mission.

5. FIRING POSITIONS (GENERAL)

a. To avoid creating new tracks, the Germans try to establish firing positions near roads. Existing opportunities for concealment are taken into account; thus the Germans make the most of buildings, courtyards, places damaged by fire, woods, and individual trees. In Italy the olive trees have proved especially useful for this. In open country, slopes, valleys, and gullies are favored. Abandoned infantry positions are sometimes used. When no cover is available, weapons are dug in and are camouflaged with garished nets.

To preserve the total effect of a camouflage plan, the Germans have been known to withhold all fire when there has been a possibility of reconnaissance by hostile aircraft—but observance of this precaution has generally depended on how much the Germans have had at stake in the ground situation.

6. FIELD FORTIFICATIONS

a. The Germans make every effort to study air photographs of the terrain before devising a camouflage scheme of any appreciable size. The resulting over-all plan includes the following precautions: warnings regarding all places especially vulnerable to air and ground observation, selection of good positions for which natural local cover is already available, allotment of artificial camouflage material to positions where it can be used to advantage, disposition of

dummy positions, and decisions regarding control of movement. Whenever possible, the Germans take air photographs at progressive stages of the work, to make sure that the terrain pattern is not undergoing any change—or, if it is, to make sure that its former appearance can be restored.

b. Trenches are covered, wherever possible. The Germans use various methods. For example, they garnish wire-covered frames with scrub growth, straw, and so on, to blend with the terrain, and lift them during an attack, to permit observation and fire. Similarly, they bind branches and straw together with wire or string, place them across the trenches—with openings provided for observation and fire—and secure these mats to the ground by stakes at regularly spaced intervals, to prevent sagging. To allow light to enter a covered trench, the Germans sometimes leave openings every 8 or 10 yards, which they cover with translucent cloth, such as gauze, suitably colored.

c. The Germans maintain that complete camouflage of concrete emplacements is as much of a safety measure as the concrete itself, although in a different sense. The possibility of fitting such defenses into existing terrain cover is always considered at the outset. Excavations fit into irregular terrain patterns, and straight lines and edges are avoided. Entrances are kept as small as possible. When it is essential for the emplacement to project above ground level, the walls are covered with a mixture of tar and asphalt, with earth or straw stuck to it. The enemy frequently

camouflages the roofs with turf in which natural vegetation is growing.

German pillboxes on the edges of villages are usually camouflaged as houses and sheds, and in open country as farm cottages and outbuildings. This is relatively easy in Southern Europe, because of the widespread use of whitewashed terra cotta for civilian buildings.

d. The Germans remove excavated earth at night or in bad weather. It is either removed a considerable distance, or is used in the construction of dummy emplacements. (See paragraph 8.) If it is left near the site, it is made to conform with the ground pattern.

e. Wherever possible, wire obstacles are erected on covered ground, but if they are erected in exposed areas, the Germans often take the precaution of painting wooden stakes to match the terrain or of smearing the tops with earth.

Minefields, too, are laid with an eye to possible air observation. True minefields are planned so as to disturb the terrain pattern as little as possible, whereas dummy minefields are left sufficiently exposed to permit detection.

7. MOTOR PARKS AND DUMPS

It is a German policy to establish motor parks and food and ammunition dumps in woods whenever it is possible to do so. The Germans recommend that these be established about 100 yards from the edge of the north side of the woods if circumstances permit.

Trees are felled only when necessary. Even in thick woods, dumps are camouflaged with undergrowth.

In occupied localities dumps are kept under cover. A favorite ruse is to situate them in courtyards and to disguise them as woodpiles. In open country, groves of trees, clumps of bushes, and overhanging ledges are widely utilized. The Germans do not permit a concentration of vehicles to stand in the vicinity of a dump in the daytime; instead, the vehicles are grouped under cover, and proceed singly to the dump.

8. USE OF DUMMIES

a. The Germans attempt to devise dummy constructions which will divert the opposition's attention and upset its fire plan. They are erected at the same time as actual installations, and are given an almost convincing camouflage treatment. The Germans do not place them at random, but, rather, make them appear to have been erected for tactical purposes. They are situated far enough away from genuine installations so that fire directed against the former will not harm the latter. Dummies are maintained, and are visited from time to time, to add to the illusion that they are in use.

b. Whenever possible, a dummy position is so planned that any ground attack against it can be counterattacked on the flank from a genuine position. Dummy trenches are usually of normal width, but are only a few inches deep. Sometimes the Germans

burn straw in them to blacken the interior and make them more convincing when seen from the air.

c. Dummy dugouts are generally suggested by nothing more than an entrance.

d. Dummy paths leading to dummy positions are prepared. In fields the grass is mown down the width of the path to leave a flat surface for texture contrast. In bare country, paint or natural materials are sometimes used to give paths the light color of a flat surface.

e. The Germans regard dummy figures as useful in completing the illusion of dummy machine-gun positions.

f. Dummies are used to suggest the presence of tanks in an area. As a rule, the construction of these is very simple (see fig. 1), but sufficiently appropriate positions are chosen to heighten the reality.

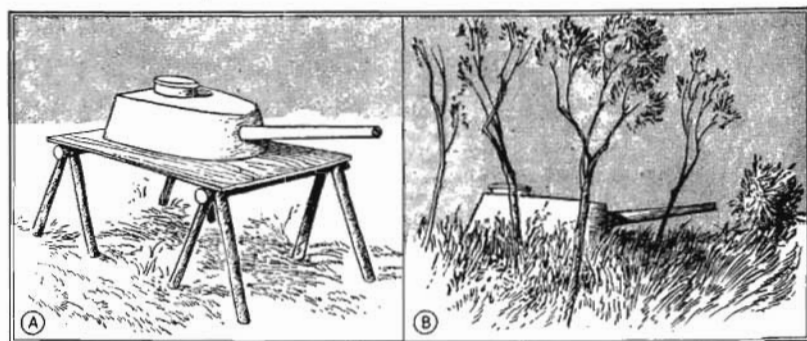


Figure 1.—German Dummy Tank.

g. The Germans simulate minefields merely by digging up sod and replacing it unnaturally. (There are usually a few true mines in the enemy's dummy minefields. A proportion of 5 to 10 percent is not uncommon.) For added effect, wire and warning notices are often erected.

h. Dummy lights, suitably placed, are used to suggest railroad stations, factories, and airdromes. Partly dimmed lanterns are stretched across open country to suggest the presence of troop columns, and dummy bivouac areas are represented by camp fires.

i. The Germans have been known to cover dummy positions with smoke screens. The purpose of this is not only to deceive air observers, but to draw fire and thus determine hostile gun positions.

Section III. GERMAN PRISONERS DISCUSS THE Pz. Kw. 6

1. INTRODUCTION

In discussing the employment of the Pz. Kw. 6, or "Tiger" tank, two well-informed German noncommissioned officers recently made a number of statements which should be of interest and value to readers of the *Intelligence Bulletin*. Although the material contained in this section has been evaluated as substantially correct and in line with information already known to the Military Intelligence Division, it must be treated with a certain degree of reserve, as is customary with material obtained from prisoner-of-war sources. This, however, does not alter the fact that it can be studied with profit.

2. THE COMMENTS

a. After Pz. Kw. 6's have had to move long distances, and before they can then go into action, a number of adjustments must be made. For example, bogie wheels must be changed. It is therefore unlikely that the tanks will often be sent directly into action after a long approach march on tracks.

b. Originally, it was planned that Pz. Kw. 6's should be supported by an equal number of Pz. Kw.

3's to provide local protection. The latter would move on the flanks of the main body of the Pz. Kw. 6's and cover them against hostile tank hunters attempting to attack them at close range. During an assault, the Pz. Kw. 6's would attack hostile heavy tank battalions or heavy pillboxes, and the Pz. Kw. 3's would attack machine-gun nests or lighter tanks. This method was altered in Sicily, where ground conditions repeatedly kept tanks to the roads and limited their usefulness—thereby decreasing the need for local protection. At least one battalion, which should have had nine of each type to a company, exchanged its Pz. Kw. 3's for the Pz. Kw. 6's of another unit, after which the company was made up of 17 Pz. Kw. 6's only.

c. A prisoner of war stated that on one occasion his turret jammed in turning, making it impossible for the crew to blow up their tank by means of a built-in explosive charge which was situated under one of the plates (possibly forward of the turret) in such a way that it could be reached only when the turret was directly facing the rear.

d. These prisoners remarked that in a "model" attack by a Tiger battalion, the standard company formation is a wedge or an arrowhead, with one platoon forward. This platoon is generally led by an officer, whose tank moves in the center of the formation. The company commander is forward, but not necessarily in the lead. The battalion commander is not forward, as a rule. It must be remembered, how-

ever, that the "model" attack cannot take into account such factors as variable terrain and the strength of the opposition. Therefore, deviations from the "model" formation are not only sanctioned, but are actually common.

The prisoners appeared to consider frontal attacks no less usual than outflanking attacks.

e. A prisoner stated that his Pz. Kw. 6 carried over 100 shells for the gun, "stowed everywhere"; however, the standard ammunition load is 92 shells. According to him, although the 88-mm gun in the Pz. Kw. 6 can fire up to 10,000 to 12,000 yards indirect, this type of firing is very difficult and is seldom undertaken. He declared that the best range is 1,000 to 2,000 yards—"the nearer the better."

f. Although one prisoner of war stated that the Pz. Kw. 6 carries a gyroscopic compass, he maintained that it is impossible to attack at night because of vision difficulties. Theoretically, however, the gyroscopic compass is very good for keeping direction by night and in smoke or fog.

g. According to a prisoner, the chain of wireless communication is from battalion to company to platoon. The latter link is a frequency on which all the tanks in the company are tuned, but each platoon and headquarters has a code name by which it is called up. For special operations—for example, long-range reconnaissance patrols—tanks can be netted by a frequency other than the company frequency. However, this entails altering the sets. Alternatively,

tanks can be given two sets tuned to two frequencies, but this is seldom done except in the case of the company headquarters tank, where it is the normal procedure. All priority and battle messages are passed in the clear, but important tactical terms (such as "attack," "outflank," "assemble") have code names (such as "dance," "sing," and so on). Each tank carries a list of these code names.

In Russia, where German troops often were 4 miles or so from headquarters, Soviet troops made a practice of intercepting traffic between battalion and company, so that they would have enough time to take preparatory measures before company orders came through.

h. The Germans take great pains to camouflage their Pz. Kw. 6's, a prisoner remarked. Every effort was made by one particular battalion to make their tanks look like the 3-ton personnel carrier. A dummy radiator and front wheels were fitted to the front of the tank, the top of the radiator being about level with the top of the tank's hull. A thin sheet metal body was fitted over the entire tank. This metal body was supported by a metal projection fitted to the top of the turret, and was not in contact with the hull of the tank at any point. The gun projected through a hole. Apparently the camouflage body was rotated by the turret, and did not have to be removed when the gun was traversed. This rather elaborate form of camouflage exceeded the dimensions of the 3-ton personnel carrier by at least 3 to 6 feet.

Section IV. PORTABLE FLAME THROWERS

Since the beginning of the war, the German portable flame thrower has undergone a number of modifications. Each successive model has represented an attempt to provide a less cumbersome weapon without decreasing its effective range. The various models are discussed in the following paragraphs.

1. MODEL 35

The German portable flame thrower, Model 35, which was in use at the start of the present war, is a modified version of the 1918 German flame thrower. The fuel container is a commercial-type pressure cylinder which also holds the compressed nitrogen used to propel the jet of fuel. Fuel ejection and ignition are controlled by a trigger lever on top of the flame gun. This weapon weighs 79 pounds. It has a fuel capacity of 2.6 gallons and a flame range of 25 yards.

2. MODEL 40

This so-called "Lifebuoy Type" portable flame thrower has a fuel unit consisting of two concentric

ring-shaped containers, which are carried flat on the operator's back. The total weight of this flame thrower is 47 pounds. Its fuel capacity is only 1.5 gallons. The flame range is approximately the same as that of the Model 35.

3. MODEL 41

The German portable flame thrower, Model 41, introduced about August 1942, and its later modification, the portable flame thrower, Model 42, are equipped with flame guns of two different types. The rest of the equipment is the same for both models and can be used with either type of flame gun.

Figure 2 illustrates the Model 41, and figure 3 illustrates the Model 42.

Fuel capacity, weight, and flame range of the two most recent models do not differ much from those of the Model 40. The following table supplies basic information.

	<i>Model 41</i>	<i>Model 42</i>
Maximum range-----	25 yd	25 yd
Total weight, charged-----	approx 47 lb	40½ lb
Total weight, empty-----	32.2 lb	29 lb
Fuel capacity-----	1½ gal	1½ gal
Fuel pressure-----	368 lb/sq in	368 lb/sq in
Nitrogen capacity-----	218 cu in	218 cu in
Hydrogen capacity-----	28½ cu in	-----

The flame gun of the Model 41 is the same as that used in the earlier types of German portable flame throwers. The jet of fuel is ignited by a hydrogen

flame, which itself is ignited by a battery-actuated electric device. The hydrogen cylinder, 16 inches long and 11½ inches in diameter, is mounted on the flame gun. The rubber fuel hose, which has an inside diameter of approximately 1 inch, is wire-braided on the outside. The fuel tank and the pressure cylinder,

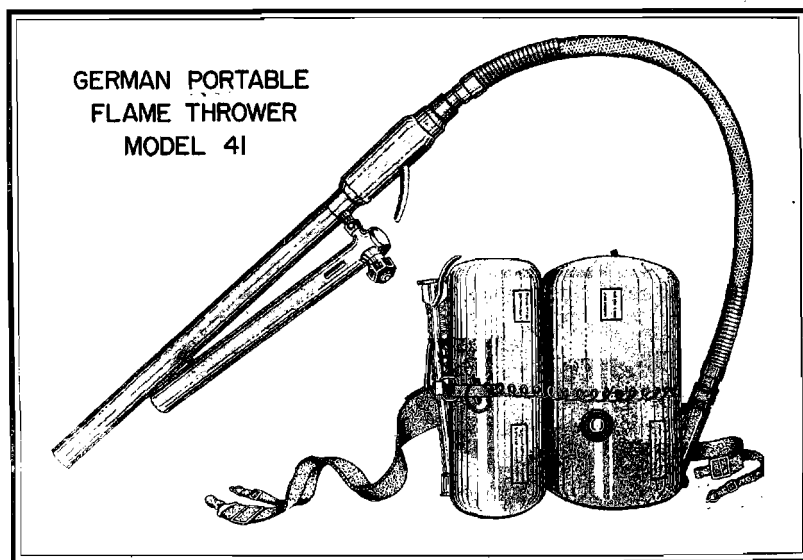


Figure 2.

each charged with compressed nitrogen, are 13 inches long, their diameters being 7 inches and 5 inches, respectively. Both containers are carried on the operator's back, in a horizontal position and with the pressure cylinder placed above the fuel tank. The fuel valve, which controls the flow of fuel to the flame gun, is so placed that the operator can rotate the hand wheel with his left hand.

The tank carrier consists of a fabric-covered quadrangular frame, fitted with two metal cradles. Each cradle consists of a horizontal bar with a semicircular metal strip at each end. The fuel tank and the pressure cylinder are held on the cradles by a metal band fitted with a quick-release clasp and cotter pin. The tank carrier is provided with two shoulder straps.

4. MODEL 42

Except for the flame gun, this equipment is the same as the Model 41. Although shorter, the flame gun of the Model 42 is otherwise similar in appearance to that of the Model 41. The essential difference between the two models is in the ignition method. In the Model 42 flame gun, the fuel jet is ignited by the flash from a blank cartridge, instead of by a hydrogen flame.

The principal parts of the flame gun are a fuel tube with a fuel-discharge valve at the rear, an ignition device, and a removable protective cover for the ignition.

The fuel-discharge valve is controlled by a trigger lever, which can be folded flat when not in use.

The protective dust cover is a steel tube, 1 $\frac{1}{2}$ inches in diameter, and constitutes the forward outside part of the flame gun. Removal of this cover discloses the ignition device. This consists essentially of a tubular spring-loaded cartridge magazine, mounted above, and parallel with, the fuel tube. The breech and the firing and cartridge-ejection mechanisms are at the forward

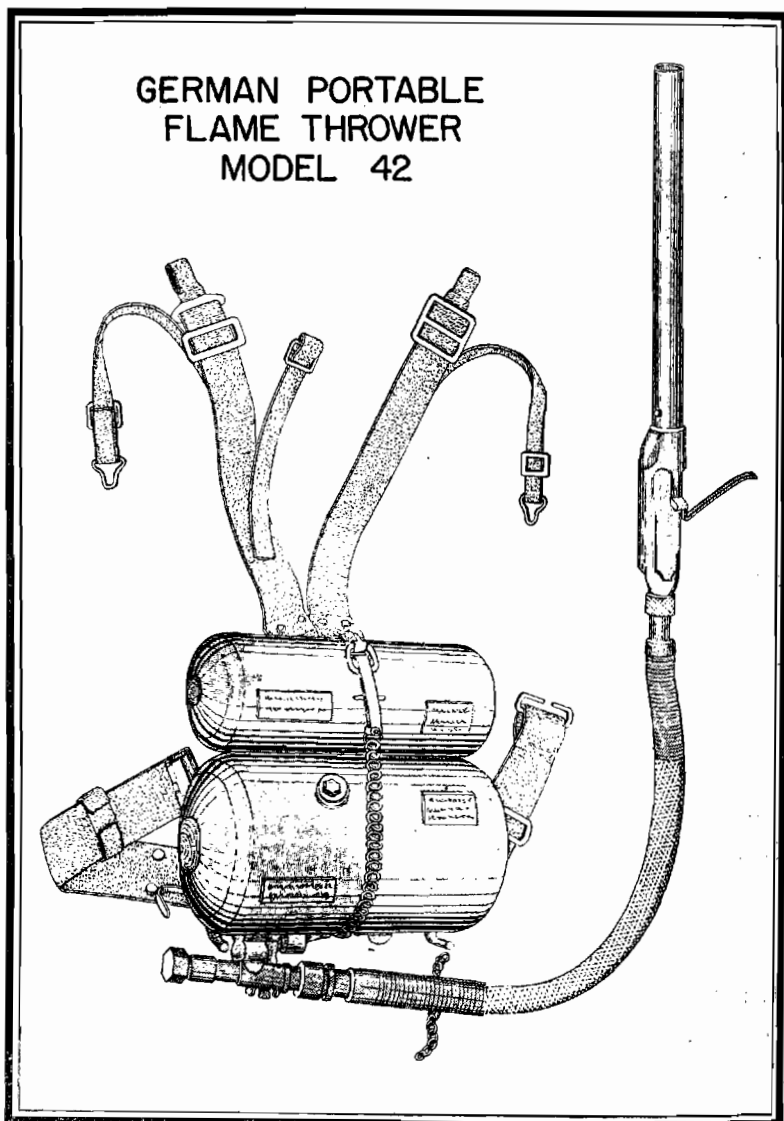


Figure 3.

end. The magazine holds 10 blank 9-mm (0.35-inch) rimless cartridges.

The normal position of the breech is such that the mouth of the cartridge is about 0.4 inch from the fuel jet and inclines at an angle to it, so that the flash is directed into the fuel jet.

The firing mechanism is operated by the same trigger lever that controls the fuel-discharge valve. When this trigger is moved to the rear, the fuel discharge valve begins to open. At the same time, the breech of the firing mechanism swings back into line with the magazine. Ejection of the spent cartridge takes place, a fresh cartridge is inserted by spring pressure, and the striker pin is withdrawn, thereby allowing the breech to swing forward into an inclined position. Percussion takes place with the fuel valve wide open. When the trigger is released, the fuel-discharge valve closes, and the firing mechanism is again ready.

The Model 42 flame gun weighs 5½ pounds, or about 2½ pounds less than the Model 41. It is cleverly designed, but is very complex and requires a number of expensive small parts.

5. HOW THE GERMANS USE THEM

Only the engineers carry and employ flame throwers. However, the engineers in the German Army are regarded as combat troops, and engineer elements are frequently attached to small infantry

units, down to the smallest assault detachments. These elements may be anything from an engineer platoon attached to an advance guard¹ to two engineers with a flame thrower supporting a raiding party.

Flame throwers are used only against static targets, preferably in inclosed spaces. They are used most of all against pillboxes. In such instances the flame-throwing detachment begins the final assault on the pillbox itself by engaging the embrasures at close range after infantry detachments have cut any communication wire. (The flame throwers usually advance to within effective range under cover of smoke or of fire from machine guns, antitank guns, or single tanks.)

The effect of the flame thrower is chiefly psychological. Moreover, the men carrying the equipment are good targets, once they have been spotted. Experience has shown that casualties in German flame-thrower detachments are high.

¹ Although the German tables of organization represent such a platoon as consisting of 60 men with 2 flame throwers, it should be noted that for special missions the number of flame throwers may be increased.

Section V. NOTES ON GERMAN VEHICLE MARKINGS

On the instrument panels and other parts of captured vehicles, there are various words and phrases which are very likely to puzzle the U. S. soldier. In translation, however, they will make sense to almost anyone who has been accustomed to driving U. S. vehicles.

1. IGNITION SWITCH POSITIONS

0—All off except windshield wiper and inspection light.

1—Parking lights on.

2—Headlights and parking lights on.

When the ignition key is withdrawn, only the above are available.

When the ignition key is inserted, the ignition is switched on, the horn and the turn indicator^d arm will work, and also the lights as above.

2. NIGHT-DRIVING SWITCH POSITIONS

O—Night-driving equipment turned off.

H—Screened headlight off; only the distance (convoy) rear light on.

V1—Rear blackout light on, screened headlight weak.

V2—Rear blackout light on, screened headlight medium.

V3—Rear blackout light on, screened headlight bright.

3. WARNING LIGHTS

The ignition light shows red when the ignition is on but the battery is not charging.

The oil pressure warning light shows green until the oil pressure is normal.

When the headlight main beam is “bright,” a capital “F” (*Fern*) is lighted on blue glass.

4. CONTROLS

The control marked “START” is not that of the starter, but of the starter device in the carburetor.

The control marked “ANLASSER” is the self-starter button.

The control marked “GAS” is the accelerator lever.

The control marked “SPAR” is a hand-accelerator control.

The control marked “A” (*Auf*) means that the gasoline flow is turned on; “Z” (*Zu*) means that the gasoline flow is turned off; “R” (RESERVE) means reserve gasoline.

The radiator (KÜHLER) shutter control marked “AUF” means open; “ZU” means closed.

The pedal marked “K” or “KUPPLUNG” is the clutch.

The pedal marked “B” or “BREMSE” is the brake.

The gear-lever positions are marked I, II, III, IV, and so on; “R” or “RÜCKWÄRTS” means reverse; “G” or “GELÄNDE” means cross-country under-drive (for further gear reduction).

The auxiliary gear-lever marked “STR” or “STRASSE” indicates the normal drive (rear wheels only); “G” or “GEL” indicates the front-wheel drive; “SW” or “SPILL” engages the winch.

5. TIRE PRESSURES

Tire pressures are written on the fenders in white.

The figure given should be multiplied by 15 to get the tire pressure in pounds.

6. FILLERS AND DRAIN PLUGS

For grease—red.

For water—white.

For brake-oil—yellow.

Section VI. TRAINING PRINCIPLES OF THE GERMAN ARMY

1. INTRODUCTION

The following extracts from a German Army field manual on military education and training afford insight into the German military mind and character. The principles contained in this manual play an important part in the development of the enemy soldier. Parts of the manual, together with a document entitled "An Introduction to Military Leadership," were recently combined into a single booklet by the commanding officer of the 3rd Panzer Grenadier Division, who ordered that it be distributed to all the officers of his command. It may be recalled that some of the notes on military leadership appeared in *Intelligence Bulletin*, Vol. II, No. 7, pp. 52-56. The training principles which follow should serve to give U. S. junior officers and enlisted men a much clearer understanding of the German soldier's military background.

2. THE ORGANIZATION OF TRAINING

a. Aside from experience gained in previous wars, training programs in the German Army are determined only by the re-

quirements of this present war. Theoretical peacetime experiences are always misleading.

b. The goal of training is absolute knowledge of essential subject matter. The result of such training should be the ability of the student to apply, on his own initiative, the knowledge he has been taught.

Instruction does not cease when a number of manual skills have been drilled to mechanical perfection, but finds its end in stimulating a true understanding of the nature and purpose of the subject learned.

c. Every commander is responsible for training the unit entrusted to him, but the company commander's responsibility is the greatest of all. His work creates the basis for the preparedness and striking power of the German Army. It is the duty of all superior officers to support him in his difficult task without limiting his field of action.

d. Planned organization of training is necessary for an efficient exploitation of the short time allotted. Every hour is precious.

Training always advances from easy to difficult tasks, from work of the individual soldier to the combined effort of units.

In the training of individual men, squads, and small units, an understanding of the cooperation of all arms must be created and fostered as early as possible.

e. The basic and advanced training of commissioned and non-commissioned officers must run parallel to individual and group training.

3. THE PROCESS OF TRAINING

a. It is more essential that a German soldier be thorough than that he be versatile. Commanders and subordinates alike must remember that exactness in the performance of all duties is a most important requirement. Monotony, however, is harmful.

b. The basis for all training with weapons is physical hardening. It is provided by gymnastics, which steel the body, promote agility and endurance, increase speed of coordination, and make a soldier adaptable to sudden changes in the course of events.

c. Drill accustoms the individual to formations which are indispensable to the proper appearance of an outfit. It teaches orderliness and military bearing, and, if used correctly, increases the self-confidence of the troops. Nevertheless, drill should take up only a limited amount of time.

d. Weapons training conveys to the soldier the knowledge and skill that he requires to put his weapons and equipment to the most effective use.

e. Combat training is the most important phase of the whole training program. It should mold the soldier into a determined fighter capable of acting with initiative in behalf of his unit. The purpose of combat exercises is to give the soldier a lasting impression of the proper movements on a battlefield, and the correct use of his weapons in combat.

f. Subjects to be taught and applied in practical exercises must first be prepared and impressed on the minds of the students in the classroom. An instructor must be thoroughly familiar with his subject before he attempts to teach it.

g. In unit training it must always be kept in mind that our paramount aim is to force our will upon the enemy.

Special training is required for flexibility of command, mobility and speed of units, surprise and deception, exploitation of darkness or terrain features, and skillful camouflage.

h. Although troops must at all times understand the principle of coordination of all arms, the training schedule embodying the actual practice of this principle should develop progressively, beginning with the training of the smallest units and ending with the training of the largest units.

Careful preparations for each problem must be made. An exact understanding of its purpose and a careful application

of past experiences are more valuable than too frequent and too long-drawn-out problems.

i. In unit maneuvers the success of the problems depends largely on the simplicity of the situation, the clarity of the combat orders, and the maximum approximation of actual combat conditions.

j. Carefully planned and prudent organization of a unit's non-commissioned officers, and careful training and education of these men, decisively influences the unit's appearance and performance. One of the main duties of the company commander is the constant improvement of his noncommissioned officers.

k. The aim of noncommissioned-officer training is the development of independent, efficient leaders for small units, and of men who will prove good, self-reliant trainers in their own right.

The development of leadership qualities, intensification of general and special knowledge, and supervision of instruction are of the utmost importance. The self-assurance of noncommissioned officers and their conduct as leaders will be greatly improved if they are called out in front of their units and entrusted with missions which entail responsibility. The granting of enough freedom of action for the execution of such missions aids in preserving, in the long run, a soldier's alert and cheerful view of his responsibility to the military establishment.

l. Although an officer's training as a leader, educator, and trainer is in the hands of his commander, every officer must work continuously on his own development.

An officer's career can be a success only if he succeeds in stimulating in others his keen and cheerful conception of duty, and if he continuously succeeds in enlisting cooperation.

The only really successful type of training is that which is not content with mere criticism, but which conveys practical knowledge by means of explicit instruction and concrete guidance.

m. The training of officer replacements is one of the most exacting, and at the same time one of the most rewarding, duties of the commanders responsible for them.

The course of training through which an officer candidate must pass, and the impressions which will remain in his mind, determine his entire career. Only those who know from their own experiences what the life and service of the enlisted man is like, and who themselves have learned to obey, can become acceptable commanders.

n. Almost all further training of the young officer takes place while he is actually serving with his unit. Under the supervision of his company or battery commander, he must perfect himself in his handling of formations, in his ability to treat his subordinates appropriately, and in his efficiency in carrying out his regular duties.

o. In his future training, careful preparation for service with higher echelons and with special branches of the service is added to the ever-continuing process of training that he undergoes.

Tactical problems, planning exercises, and other work which permits originality will greatly enlarge his talent for leadership and his understanding of logistics.

The longer he serves in the German Army, the better qualified he should be to evaluate character, and the more widely he should expand his military and general education.

p. The actual quality of a unit is determined by the over-all picture of its state of training. It is more important for all soldiers in one line of training to receive an equal and well-balanced amount than for a few individuals to perform certain record achievements.

PART TWO: JAPAN

Section I. JAPANESE JUNGLE WARFARE

1. INTRODUCTION

The following information on Japanese jungle warfare is largely based on enemy sources, all of which are believed reliable. Most of the information was disseminated by the enemy after he had suffered numerous reverses in the Southwest Pacific, and therefore should include some of the latest tactics he has devised for jungle combat.

This discussion of Japanese jungle warfare is not intended as a complete study of enemy tactical doctrine on the subject. It deals largely with information which has not previously been widely disseminated among U. S. troops. For a more complete study of enemy jungle tactics, reference should be made to the first 12 issues of the *Intelligence Bulletin* (Vol. I), all of which include information on the subject.

2. GENERAL

According to the Japanese, their "reverses" in and around Wau, New Guinea, were caused by insufficient!

rations, inexperience in jungle movements, and unfamiliarity with the terrain. Blame for many of the shortcomings in this and other unsuccessful South Pacific campaigns was placed on junior officers and noncommissioned officers.

Discussing the plans of United Nations forces, a Japanese source points out that "everything hostile forces do has a meaning; no matter how small the details, each is a part of a plan. Therefore, it is important that we observe such things at once. If we fail, we will be taken in by the opposing forces."

"When we perceive these details," the Japanese treatise continues, "we must next decide on plans to counter the opposition, and take advantage of weaknesses. . . . If you keep studying your opposition, no matter how small and insignificant the information may appear to be, you will improve your judgment for use during critical moments."

a. Training

Japanese notes on training stipulated that:

(1) Battle regulations be read until they were memorized by all personnel.

(2) Officers thoroughly instruct their men on enemy weapons, uniforms, and features (they should at least be able to identify an automatic rifle by its sound).

(3) The ability of troops to throw hand grenades be improved.

(4) Training be given in climbing and descending cliffs by means of ropes (this applies particularly to heavy-weapons units).

(5) Further training be given in the transmission of orders. (It is necessary to insure accuracy in this phase of warfare. If circumstances permit, it is best to write out orders before they are transmitted.)

b. Disposal of Booby Traps

The Japanese look for booby traps in areas where United Nations forces expect the former to pass, or in areas the Japs might pass over to avoid booby traps.

If a booby trap is discovered, the Japanese search the area thereabouts for others. The first unit passing through a booby-trapped area should remove the traps, according to enemy instructions.

c. Equipment

A Japanese report on jungle equipment stated that leather shoes should be worn because rubber-soled shoes caused soldiers to slip easily. The report included the following additional points:

- (1) Uniforms should be dark green.
- (2) Each section should be furnished two automatic rifles similar to those used by U. S. forces.
- (3) Each company should have two guns of a type between a grenade thrower and a rifle.
- (4) It is necessary to have field guns (100-mm howitzers, if possible). Hostile field pieces have been very successful, and we have had no really effective answer. If we had field guns with us, the hostile artillery positions could be neutralized.
- (5) Comparatively speaking, our grenade throwers are inferior to those used by United Nations forces.
- (6) There have been times when our hand grenades misfired because they were damp.

d. Care of Wounded

The Japanese "very much regretted" that it was necessary to leave the wounded behind in the Wau operations. "In the future we will give further attention to arrangements for rescuing the wounded. However, if the wounded cannot be rescued, they must be ready to commit suicide at the proper time—that is, after all means to continue the fight have been exhausted.

"In case the wounded are retiring to the rear, always let them carry their small arms and equipment. Their ammunition should be left with comrades at the front. It is regrettable that there have been numerous instances of wounded men abandoning their weapons on the battlefield. Also, there have been instances of men leaving the front line without permission immediately after suffering wounds. This is prohibited."

3. OFFENSE

a. Movement

During movement in the jungle, Japanese combat forces usually are preceded by a road-repair section, which clears obstacles and takes other possible steps to facilitate travel. In mountainous terrain, this section hangs ropes, erects steps, and constructs guards to prevent troops from slipping.

The force commander usually distributes radios at intervals in the column during the march, to keep himself informed about the situation.

Because the heavy-weapons unit moves more slowly than other units in the column, a Japanese regimental commander suggests that it travel independently in a separate column. In the rugged terrain of the Wau area, the rate of march of an enemy heavy-weapons unit was only about 4 miles per day, alternating 20 minutes of marching with 20 minutes of rest.

The Japanese regimental commander recommends that, during marches in the jungle, bivouacking be done in march formation along the road. However, he adds, the force in the column must shorten its distance to the front. Seldom are there places where the force may assemble together.

The force should go into bivouac $1\frac{1}{2}$ to 2 hours before darkness and should leave about 1 hour after dawn, according to the regimental commander.

To aid their movement at night, a Japanese unit on Bougainville Island marked a trail with vines which had been tipped with phosphorus.

b. Combat Methods

(1) *Launching the Attack.*—The following notes on Japanese combat methods were paraphrased from enemy sources:

In the jungle, dawn and dusk are considered the best times to launch an attack, especially if it is raining. Under such conditions the hostile forces are under tents in trenches, and therefore it is easier for us to approach undetected.

Gaps between hostile positions are comparatively wide (75 to 100 yards), and in many cases they are poorly guarded—some-

times not at all. Therefore getting into these positions is a simple matter.

It is bad tactics to concentrate on, or be diverted to, the front of the hostile forces. It is usually best to employ a small part of your force to make a frontal attack and use your main forces to attack the rear and flanks of the opposition.

When a frontal attack is employed, it is necessary to make thorough preparations. The plan of attack must call for the most effective use of the various heavy weapons and for full use of artillery. Because the terrain is generally wooded and affords a limited field of fire, it is easy to conceal our movements while assault preparations are being made. The depth of hostile defense positions does not exceed 650 yards during the first stages of combat. The curtain of fire at the front of these positions is heavy, but from there to the rear it thins out. Hence it is advisable to make a bold, decisive breakthrough at once.

After launching a frontal attack in a wooded area, it may be advantageous to shift the main force to the rear and flanks of the opposition. This method is particularly good against forces defending a defile along the beaches.

If hostile forces unexpectedly fire on you in the jungles or on grassy plains, do not become excited and return the fire. You must guard particularly against making noises. If you are in position under a unified command, the commanding officer will be prepared to take offensive action against the opposing forces.

You must be continuously on the lookout for hostile observers and snipers, and pick them off with carefully aimed shots. Where their presence is suspected, spray the trees with machine-gun fire.

In New Guinea we used our light machine guns too liberally, and suffered a relatively large number of casualties among the machine gunners. Riflemen should be used to search out the hostile positions, while the light machine guns should be reserved for definite targets.

If our positions are discovered by hostile mortar fire, we must change positions immediately, first retreating about 100 yards.

The power of hostile forces can be effectively reduced by cutting off their supplies—this breaks their fighting spirit. Therefore, at every opportunity, launch surprise attacks in the rear for this purpose.

Our soldiers must rely on their bayonets. U. S. troops depend too much on their fire power and lack the will to fight, both physically and spiritually. Therefore, have confidence in your bayonet, and lunge at your foe. In bayonet drill, practice the straight lunge, with your right foot well forward, so that the bayonet will penetrate all the way to its guard.

(2) *Enemy "Rules" for the Attack.*—The following Japanese combat "rules" were extracted from an enemy manual:

(a) Take advantage of semidarkness as well as of bad weather.

(b) If you encounter hostile forces unexpectedly, take the initiative and fire without hesitation.

(c) If you are in an exposed area of the jungle, find something with which to conceal yourself, instead of dashing around.

(d) Hold out until the end, because your foe will not rush you. However, be careful of his fire power and hand grenades.

(e) Always use the assistance of others instead of fighting alone. Make contact with your own troops in every possible way.

(3) *Tactics Observed in Burma.*—Just before certain attacks in the Burma theater, the Japanese reserve forces screamed and yelled. Their forward troops soon joined in the noise-making. Observers said such tactics were obviously designed to break the

morale of the defending forces, to bolster Japanese morale, or to make it appear that the attacking troops were numerically stronger than they actually were.

The Japanese apparently made definite plans to concentrate their attacks in particular sectors, because they continued to press the attacks regardless of casualties or the strength of the opposing forces. Meanwhile, the enemy sent small parties to determine the location of the opposing flanks, with the possible intention of causing United Nations commanders to pull troops from front sectors to strengthen their flanks. Regardless of these maneuvers, the Japanese always concentrated on the attack sector previously selected, and tried to overwhelm the opposition by weight of numbers.

Besides probing fire, the Japanese have used two other methods to tempt United Nations forces to fire and give away their positions:

(a) Japanese soldiers, each equipped with a length of rope, tied the latter to bushes and then moved to a place of safety. Then they worked the rope in an effort to make opposing forces believe that enemy troops were moving among the bushes.

(b) Enemy soldiers employed a simple mechanical device to represent the clicking of rifle bolts. The device in each case was attached to a bush and connected by a rope to a soldier hidden in a place of safety. By manipulating the rope, he made the device sound like the operation of a rifle bolt.

c. Reaction to Ambush

Observers state that, as a general rule, the Japanese in the Burma theater have reacted in the following manner to ambushes:

Leading enemy elements got off the road or trail and sought to outflank the opposing forces. Then the Japanese opened up immediately with mortars (they are seldom without them) and attacked, astride the road or trail, the area in which the ambush was laid.

When ambushed, some Japanese soldiers have been known to fall and feign death.

d. Special Assault Units

In the South Pacific theaters of operation, the Japanese have employed several types of special assault units. In most cases they were not specially trained troops but combined units—or parts of units—selected to accomplish special missions, such as raiding lines of communication or artillery positions.¹ Some of these specially organized units were instructed to withdraw after accomplishing their mission, while others were designated as “suicide units.”

The organization and mission of two of the “suicide units” in New Guinea operations were described in Japanese reports, which are paraphrased below.

One assault unit, commanded by a lieutenant, consisted of an infantry company and a detachment of engineers. This unit was to “advance within close

¹ “How Japanese Raiders Demolish Artillery,” a section based on enemy sources, appeared in *Intelligence Bulletin*, Vol. II, No. 4, pp. 13–16.

range of the enemy's main position and attack." The engineers, acting as a demolition detail, were to carry Bangalore torpedoes "to destroy all obstacles and mop up within the positions." Two "suicide raiding units" of six men each were assigned to "penetrate No. 2 and No. 3 enemy positions," and to assist the main assault unit by "throwing the enemy's rear into confusion."

To assist in the operations, a second company was to act as a decoy, while another company was to advance closely behind the assault unit and "leapfrog" the latter at the appropriate time.

The assault unit was organized as follows:

Headquarters, 4 men; Assault Detail, 15 men; Obstacle Detail (1 platoon engrs.); Artillery-demolition Detail, 6 men; Raiding Detail, 7 men; Supporting Detail, 22 men; Reserve Detail, 32 men; Mopping-up Detail, 33 men.

The Assault Detail consisted of four "Grenade Groups," while the Supporting Detail had one light machine-gun squad and one grenade-thrower squad. The Reserve Detail included a rifle squad, a light machine-gun squad, and a grenade-thrower squad.

The second assault unit described by the Japanese, also led by a lieutenant, consisted of infantry and engineer troops. Its mission was to attack a U. S. coastal base from the sea. The enemy order covering the operation included the following:

The strength of the unit will be divided into two sections, combining infantry and engineer troops. There must be close

coordination between the attacks by the infantry and the demolitions carried out by the engineer troops.

Equipment will be as light as possible. In addition to the necessary ammunition, carry as many grenades as you can.

The landing beach will be indicated under a separate order. Your objectives should be ammunition dumps, artillery positions, tanks, enemy headquarters, moored boats, barracks, and so forth.

The boat unit will return as soon as the assault unit has landed.

The attack must be completed before daybreak.

After the attack, the commander of the assault unit will use his own initiative as to whether he will concentrate his forces within the position penetrated or concentrate outside the position. However, he must be situated so that he can support the main regimental attack.²

4. DEFENSE

a. Organization of Positions

(1) *Real*.—Figure 4 is an exact tracing of a Japanese drawing to illustrate the organization of a defensive squad position. This set-up apparently was designed after the "Wau operations" in New Guinea. According to the drawing, emplacements for three to five men are constructed at each point of the triangle (a Japanese rifle squad is approximately the same size as ours). The distance between each group depends on the density of the jungle; however, groups must be within sight of each other. Each group of men is well

² Although the two attacks referred to above took place as planned, both were almost complete failures.

equipped with hand grenades. The squad leader stays in whichever group is most convenient. "It is best," declares a Japanese source, "to connect communication trenches between the two groups. If one of the groups is attacked by hostile forces, the other groups

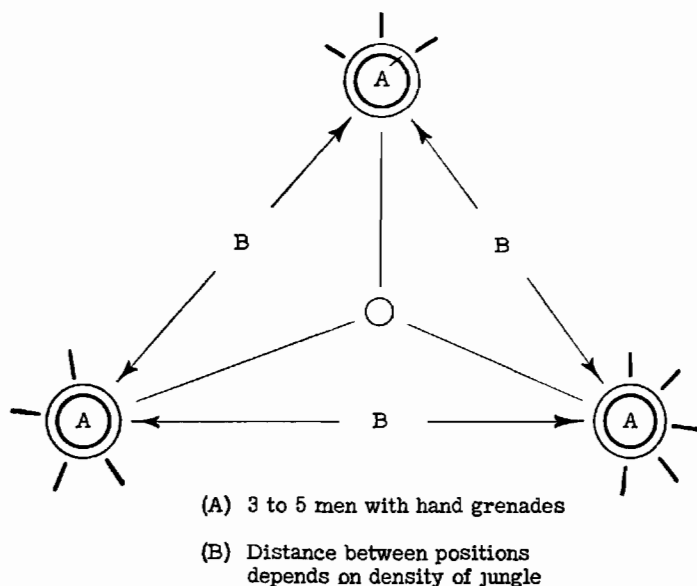


Figure 4.—Japanese Squad Position (defense).

will attack the rear flanks of these forces. If the latter penetrate to the center of the position, you will use enveloping fire."

(2) *Dummy*.—A Japanese source states that "we have used various devices for constructing dummy positions and personnel, and also for firing from unexpected directions. Everyone should keep planning these day by day."

The enemy apparently is particularly interested in luring U. S. artillery to fire on dummy targets. In this connection, a paraphrased Japanese treatise reads:

Experiments conducted during the fighting at Munda proved that suitably prepared dummy positions and dummy guns were extremely effective in drawing hostile artillery and bombing attacks. In accordance with these results, always try to build dummy gun positions some distance away from our real positions.

Another method of drawing hostile artillery fire is to send out patrols to light fires. The smoke from these will certainly tend to bring down artillery fire on the area. This patrol must be led by an officer because the site must be selected with great care to prevent the hostile fire from reaching real positions.

[NOTE.—Since the Japanese repeatedly give strict warnings against the lighting of fires, smoke columns should be viewed with suspicion.]

A U. S. observer in a Southwest Pacific area described a dummy gun position and several dummy antiaircraft positions. The dummy gun was a coconut-palm log painted gray, with one end hollowed out to represent the muzzle. From a distance of 100 yards it appeared real.

Dummy soldiers were found at the antiaircraft positions. They consisted of tree limbs nailed together, with coconuts used as heads and Japanese uniforms used for clothing. The dummy antiaircraft guns consisted of tree trunks or limbs tied together. A large limb represented the receiver and a smaller one represented the barrel. It is doubtful if these positions would have deceived ground troops at a distance of 200 yards or less.

b. Plans to Counter U. S. Tactics

(1) *Action Against Patrols.*—In New Guinea, Japanese troops were ordered not to answer the searching fire of hostile patrols. "One way to annul their intention (they seek to locate your positions) is to have snipers shoot the patrol," the order read. "Another method is to hide quietly, remain motionless until the patrol passes, and then knock the hostile troops out with one blow."

(2) *Action against Ground Attacks.*—The following information on Japanese tactics designed to counter U. S. offensive power is paraphrased from enemy sources:

Hostile attacks in a wooded area will usually begin with automatic rifle fire; the effective range is about 50 yards. Therefore, we can neutralize this fire by clearing a 50-yard area in front of our positions.

In wooded areas there have been instances of hostile forces attacking at close quarters. Troops must not neglect to guard all directions at all times; we cannot always depend on patrols. There have been instances in which patrols were lost in wooded areas and could not report at the proper time. Do not send them out too far; limit their area and give them a specific mission, so that they can be recalled at a suitable time.

While standing guard, do not move your head quickly, otherwise you will often be detected. Make a hole in a big leaf and stand behind it, or construct a cover.

When cool firing is difficult due to heavy hostile automatic-weapons fire, there are many occasions when hand grenades will prove effective in carrying on the fight.

When hostile forces begin to retreat, the men on guard will increase their fire power and will launch a counterattack to destroy the opposition. However, take precautions to see that the men do not lose their way back.

Guards will entice small hostile forces to approach as close as possible and then destroy them. When somewhat larger forces attack, you must commence firing outside of grenade-throwing range (50 yards).

The hostile forces [U. S. troops] do not possess very effective strength in the assault, but they will try to annihilate us by relying on fire power alone; therefore we will be wiped out if we try to defend ourselves while remaining in one place.

When hostile forces attack, we must act quickly in a minimum of time and confuse them by destroying the attacking unit. In using this method, we must preserve our strength instead of displaying it all on the front line. When we attack, the rear flank of the opposition will be the objective.

The hostile forces are skilled in approaching by crawling, and they often get within 15 yards of our troops without being detected. They open surprise fire with very rapid-firing automatic weapons and deal destructive blows. However, they do not charge; their grenade throwers approach and toss grenades or shoot them with grenade rifles. If our positions are held strongly, the opposing forces will retreat after a short time, or they may send combat details around our flanks to attack with grenades and automatic weapons.

In taking countermeasures against such hostile attacks, we must scatter the opposing forces and then carry out a strong assault at one point. It is usually advantageous to attack the hostile flanks with two or three squads. Draw the opposition close by remaining under complete cover. Then, by surprise and accurate fire, kill the light machine-gun operator. However

small your force may be, prepare to fight on all sides, and try to envelop any hostile envelopment by concerted action.

Clear away the underbrush for a distance of 15 yards from your positions; remove no more underbrush than necessary so that the clearing will not be noticeable.

Hostile forces seldom, if ever, attack at night. When they are aware that their positions are known to us, they frequently fire tracer bullets and rifle grenades—this is searching fire intended to make us retaliate and reveal our positions.

At times hostile patrols penetrate to our rear—this generally occurs during the first half of the night.

(3) *Action against Parachutists.*—The following information from Japanese sources was included in an enemy order governing the defense of an airfield against U. S. parachutists:

Hostile parachute units, when attacking airfields while the wind is blowing, will fly in down-wind; bail out against the wind, and descend with the current. The parachutists, as a general rule, will descend after hostile forces have strafed or bombed our defenses.

In defense against such parachutist attacks, site machine-gun and rifle positions around and near the airfield so that these weapons can be fired up and against the wind.

Keeping in mind the rate of descent (16.4 feet per second) and the wind current, sights will be aligned at a point below and down-wind to the parachutists.

The following table gives some examples of how to sight your rifle or machine gun:

1,640 yds-----	8 leads down 3 leads right.
1,312 yds-----	6 leads down 2 leads right.
1,094 yds-----	3 leads down 2 leads right.
656 yds-----	3 leads down 1 lead right.
328 yds-----	aim at feet.

Section II. NOTES ON DEVELOPMENTS IN JAPANESE DEFENSE

1. INTRODUCTION

The following notes deal mainly with how the Japanese conduct defensive warfare on "ordinary" terrain. They do not deal with jungle warfare, although some of the tactics discussed might also be utilized in the jungles.

Except for the fighting on Attu and on certain coral atolls in the Pacific, practically all combat between U. S. ground forces and the Japanese has taken place in jungles. Therefore, to get a more complete picture of enemy operations on "ordinary" terrain, the reader should refer to the following articles previously published in the *Intelligence Bulletin*:

"Defense of Betio Island" (Vol. II, No. 7, pp. 1-35); "Combined Attu Reports on Japanese Warfare" (Vol. II, No. 2, pp. 33-51).

"American Wounded Tell about Japanese on Attu" (Vol. I, No. 12, pp. 48-53); "On the Attu Front" (Vol. I, No. 11, pp. 64-70).

2. ORGANIZATION OF POSITIONS

With regard to Japanese organization and construction of defensive positions, an enemy source is quoted as follows:

Against hostile [U. S.] artillery fire, aerial bombing, and especially against infantry attacks, it is necessary to construct

powerful positions laterally and in depth. The following points must be considered when a strong position is to be constructed:

- a. It must provide for the most effective use of fire power.
- b. It must be strong enough to withstand hostile artillery fire and bombing before we [Japanese] start firing.
- c. It must be capable of being defended independently.
- d. It must be skillfully camouflaged.
- e. It must provide suitable living quarters.
- f. It must have a sufficient supply of ammunition and food, and must have an assured source of water.

Japanese installations for 75-mm guns on Kiska were described by an observer as follows:

"I saw several 75's dug in, about 10 feet deep. To the right and left of each installation were semi-caves which served for living quarters and for storage of ammunition. It was impossible to see these gun emplacements except at close range. Their tops were covered with strong wire, on top of which were a layer of gunny sacks and a layer of tundra. There were no tracks around the emplacements."

In contrast to Betio, the Japanese defense installations on Makin covered only a portion of the island, and most of the positions had no cover. The enemy utilized more barbed wire and individual rifle pits on Makin than on Betio. Figure 5 is a view of a typical rifle pit, reinforced with coconut logs.

The rifle pits, which generally were close together, were almost invariably associated with machine-gun positions. For example, on the western side of the main defense area, the Japanese had 50 rifle pits, 6 machine-gun emplacements, 1 antitank-gun emplace-

ment, and 1 concrete pillbox. Communication trenches frequently connected these installations.

Figure 6 is a typical machine-gun position as found on Makin. Made of earth revetted with vertical coconut logs, this position faces the ocean.



Figure 5.—Typical Japanese Rifle Pit (Makin).

Construction details of the Japanese 37-mm anti-tank-gun emplacement are shown in figure 7. The double side walls are made of logs and filled in between by sand or earth. The front part of the

emplacement is made of thick reinforced concrete. (The same type of emplacement is used for the Japanese 70-mm battalion howitzer.)



Figure 6.—Typical Japanese Machine-gun Position.

3. DEFENSE OF BEACHES

a. General

Observers of three recent landing operations in the Pacific report that the Japanese constructed a large number of alternate rifle and gun emplacements, and that most of these positions were connected by communication trenches. On Betio it was believed that

in several instances firing positions were manned by single riflemen. One observer stated that since rifle pits and gun emplacements are guides in the estimation of enemy strength, this practice of the Japanese should be especially noted.

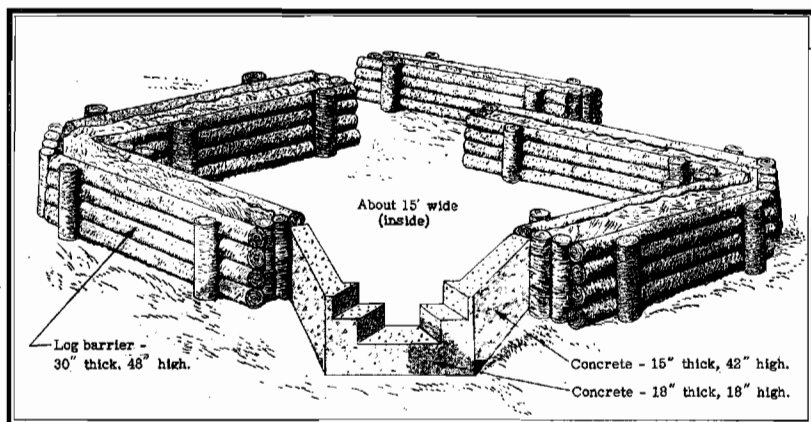


Figure 7.—Japanese Antitank-gun Emplacement (Makin).

According to an enemy source, one Japanese unit assigned to defend a beach was instructed to distribute drums of gasoline along the beach, and, in case of an invasion, to empty them on the surface of the sea and set the gasoline afire.

b. On Kiska

Almost all the beaches on Kiska had defense installations, which included barbed wire and mines. The island's strategic mid-section beaches that permitted access to the built-up areas around Kiska Harbor and Gertrude Cove were strongly defended.

In general, all beaches accessible to landing craft were mined; breaks in the line of bluffs overlooking the beaches had concealed antitank traps. Well-camouflaged machine-gun dugouts and rifle pits were located on high ground at the extremities of each beach. In the hills behind the beaches, other covered machine-gun emplacements and trench systems, with numerous firing bays, commanded all possible entrances to the interior along valley routes. At a few of the strategic coves, single 75-mm and 37-mm artillery pieces were established in covered emplacements that commanded both the beach landing points and their water approaches. In the more thickly settled areas, the shore line was honeycombed with dug-in machine-gun emplacements, and, in a few cases, the defenses were bolstered by reinforced concrete pillboxes.

Barbed-wire defenses on Kiska consisted of four types:

(1) Double apron ($2\frac{1}{2}$ to 3 feet high at the center and 10 feet wide).

(2) Four-strand fence ($2\frac{1}{2}$ to 3 feet high; criss-crossed strands).

(3) Low entanglements (1 to $1\frac{1}{2}$ feet high; designed merely to stall advancing troops momentarily).

(4) Specially designed entanglements.

Double-apron wire was predominant, and was used principally to block the mouths of stream valleys, which at most beaches provide entrance to the interior. Usually, this wire was found strung along the

slopes of grassy dunes just inland from the beach. In only a few cases was the wire established on the beach itself.

Four-strand fence defenses were cleverly located at the crests of steep beach bluffs, where the barbs would retard the attacking soldier after his energy would have been spent in climbing. Heavy machine-gun positions usually commanded the full length of these barriers.

Low entanglements were stretched upon pegs just off the gray rocks of a few of the lesser beaches. In most cases the wire blended well with the rocks, and was hard to see except at close range.

At Reynard Cove the Japanese set up a unique wire entanglement. Barbed strands were strung from the top of the 15-foot bluff behind the beach to pegs driven into the beach, creating a thorny maze through which U. S. troops would have had to climb in order to reach the high ground behind the bluff.

The barbed-wire defenses on Kiska were not erected in depth, and probably in most cases would not have been difficult to penetrate. Except at one beach where two fences existed, no more than one wire barrier stood between the sea and the island's interior. At many of the beaches unused coils of barbed wire were found in storage piles, indicating that the Japanese had planned to erect additional wire defenses.

To prevent U. S. planes from flying up a ravine leading from a west beach on Kiska to a target in the

interior, the Japanese stretched steel cables across the deep, narrow valley. Under similar conditions, the enemy may be expected to employ such methods in future operations.

c. On Bougainville

Instructions given by the Japanese headquarters on Bougainville for repelling the expected United Nations landings are paraphrased below.

(1) At all probable landing points, small forces will be posted as security units, and the main force will be ready to go into action at a moment's notice.

(2) You will reconnoiter the enemy situation from as great a distance as feasible, and devise some means of discovering their intentions. In this connection, make suitable use of natives; establish a network of sea lookouts by use of small boats; post lookouts on each small island; establish sea lookout stations on hills overlooking the sea; maintain close liaison among lookout stations.

The enemy's landing points will be localized, and the hostile forces will be tricked into landing in areas where we have already formulated plans of attack. To this end, in sectors where we want to dissuade hostile forces from landing, construct dummy positions, dummy barracks, and dummy lookout stations.

4. DEFENSE AGAINST TANKS ¹

The Japanese, as has been pointed out in previous issues of the *Intelligence Bulletin*, put unusual stress

¹ In connection with this section, reference should be made to "Antitank Tactics" (*Intelligence Bulletin*, Vol. II, No. 2, p. 56) and to "Tactics against Tanks" (*Intelligence Bulletin*, Vol. II, No. 6, pp. 16-19).

on close-quarter attacks against tanks by individuals or small groups, known as "tank fighters." These groups in most cases consist of two or three men.

Weapons believed to be used by the "tank fighters" include armor-piercing magnetic mines, mines tied with grenades, clusters of grenades, Molotov cocktails, and pole mines (mines attached to the ends of poles).

The three-man group, according to enemy sources, usually operates as follows:

No. 1 hurls a Molotov cocktail at a tank, and, if the weapon hits the target, he yells "a hit." In that case, the others do not attack the target. If the throw is unsuccessful, No. 1 will yell "a miss." In this case, the group leader will immediately attack the tank with a pole mine in an effort to damage the tracks and thus stop the tank.

No. 2, before explosion of the pole mine, seeks to damage the tank's guns by placing under them an adhesive mine or similar explosive. It is considered preferable for No. 2 to attack the tank simultaneously with the leader if No. 2 is carrying an armor-piercing mine.

The two-man group, according to Japanese sources, usually operate as follows:

The leader carries a pole mine, and No. 1 carries a Molotov cocktail. Once the tank has apparently chosen a direction of movement, or has been forced by terrain into a definite channel, the attack is made, preferably from both sides simultaneously.

To combat tanks on a larger scale, the Japanese have devised what they call an "elastic defense," which operates as follows:

At the approach of a tank attack in force, only some 20 percent of available heavy infantry weapons are used from front-line positions. With the exception of one squad per platoon, all units fall back 800 to 1,500 yards. The squads remaining on the front lines scatter, lay a smoke screen, and attack the tanks with incendiary grenades as they come through the smoke.

While the tanks are meeting this resistance, they come under the fire of all the main Japanese antitank weapons, which are sited 500 to 800 yards to the rear. Meanwhile the divisional artillery moves forward to positions which permit direct firing on the tanks, thus supporting the infantry either in defense or in a counterattack.

Japanese sources state that once a tank attack is stopped by this "elastic defense" method, the hostile forces are pinched off, and that the infantry, although scattered, can still offer successful opposition to hostile infantry which might attempt to exploit the advance of tanks.

Section III. TWO BOOBY TRAPS DEvised BY JAPANESE

1. INTRODUCTION

Although the Japanese have actually used only a comparatively few booby traps to date, they are known to have devised several types of these weapons, principally by rigging up fragmentation grenades in various ways. The enemy is known to have at least five types of such grenades, all of which can be adapted for booby-trapping purposes. Japanese mines and artillery shells also have been improvised for use as booby traps.

For information on Japanese booby traps which previously has been carried in the *Intelligence Bulletin*, reference should be made to the following issues:

“Land Mines, Grenades, and Booby Traps” (Vol. II, No. 1, pp. 1-15); “New Japanese Weapons” (Vol. II, No. 3, pp. 39-48); “Supplementary Notes on Booby Traps and Mines” (Vol. II, No. 4, pp. 21-26).

This section deals with the Japanese tube booby trap and string booby trap, details of which come from enemy sources. The tube type seems to be a Japanese favorite.

2. DETAILS OF TUBE TYPE

a. Construction

The tube itself is made of steel, iron, bamboo, or any other suitable material (see fig. 8). It is about 15 inches long, with a diameter large enough to admit a grenade (the Japanese Model 91 hand grenade is shown in the diagram). Three holes are drilled through the tube to accommodate the suspension wire (1), the safety wire (2), and the support wire (3).

The grenade is placed in the tube, as shown in the diagram. The base of the tube is closed by use of a stone or a piece of iron, while the upper opening is covered with similar material as a protection against rain. To complete the rigging process, the tube is strapped to a stake which is driven in the ground.

b. Operation

The support wire (3), which holds the grenade in place during the assembling process, and the safety wire (2) are removed at the same time. The grenade is now held in place by the suspension wire (1). When this wire is removed the grenade falls down the tube and, upon hitting the hard base, the firing pin is forced into the cap. This causes the detonation of the grenade in about 4 to 8 seconds. Another function of the iron or stone plug at the base of the tube is to protect the grenade against rain.

c. Ways of Rigging

(1) *Spring Method*.—A cross wire at a height of about 1 foot is used (see fig. 9). Attached to the cross

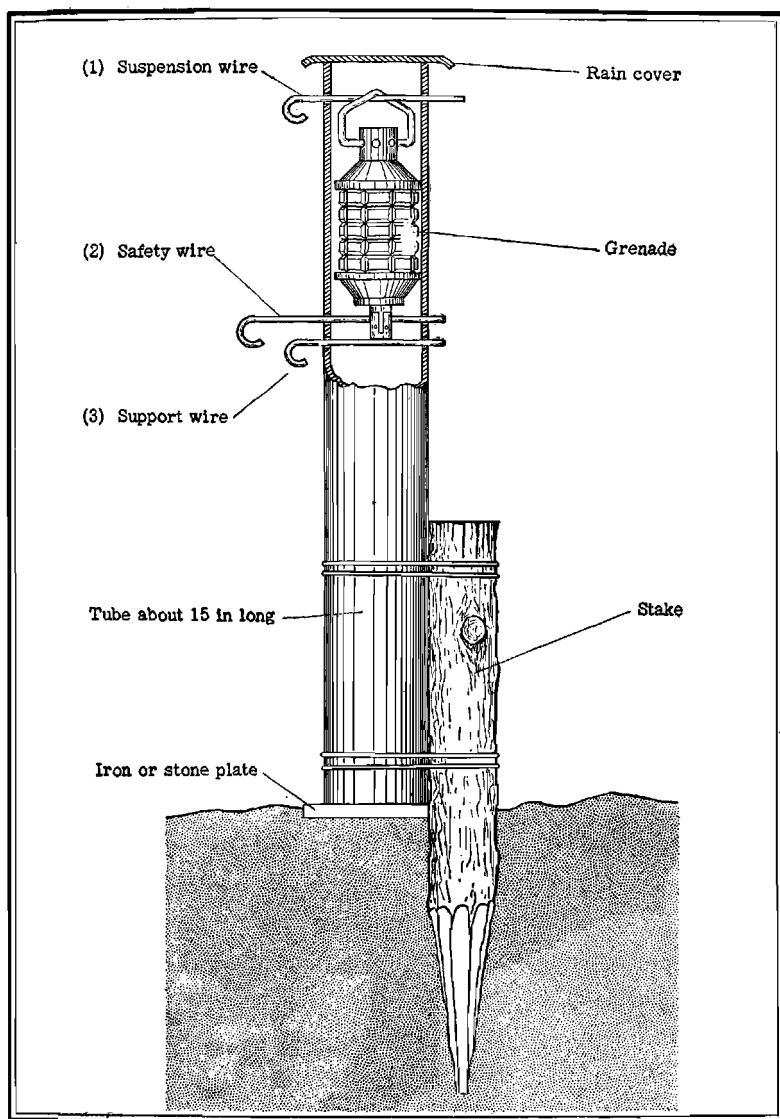


Figure 8.—Japanese Tube Booby Trap.

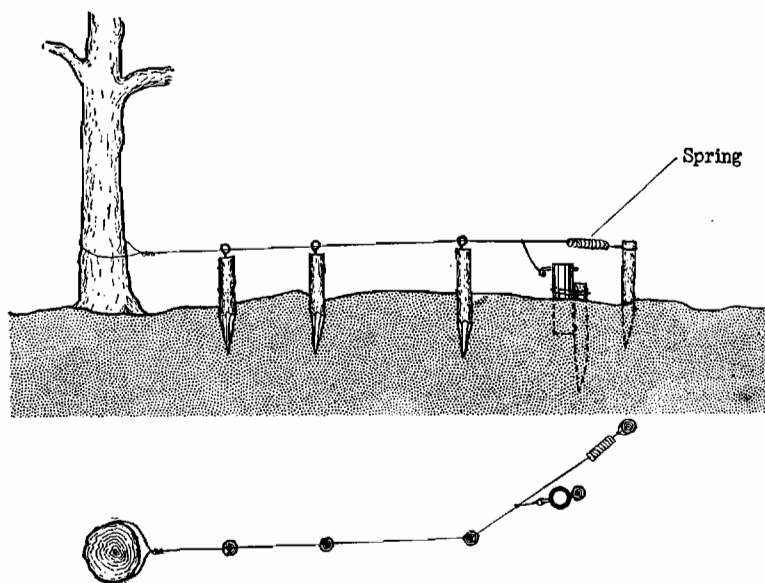


Figure 9.—Japanese Tube Booby Trap (utilizing spring method).

wire is another wire, which is also attached to the suspension wire. When the cross wire is pulled, it will extract the suspension wire (1). To allow for the movement of the cross wire, a spring is attached to the end of the cross wire which is opposite to the direction of the pull. The same principle is used when it is necessary to set a booby trap around a corner or a curve. The only change is that a bent nail is used as a pulley.

(2) *Weight Method*.—The spring used in the spring method is substituted by a weight, which allows for two directions of movement (see fig. 10). When the cross wire is pulled the weight is lifted, thus causing one movement, and, when the cross wire is cut or

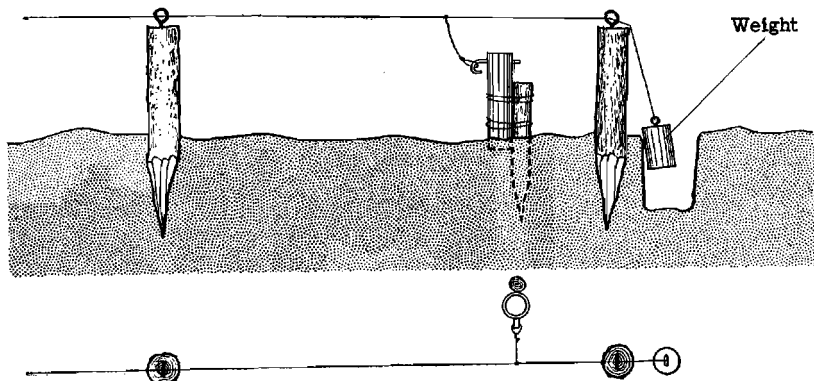


Figure 10.—Japanese Tube Booby Trap (utilizing weight method).

loosened, the weight falls to the ground and causes a movement in the opposite direction. Either movement will withdraw the suspension wire.

(3) *Stake Method*.—In this method a stake or limb which has elasticity and weight is used (see fig. 11). The tree or stake is placed in such a manner that the cross wire holds it in position. When the cross wire is pulled, the elasticity of the tree permits sufficient movement to the cross wire to extract the suspension wire. If the cross wire is cut or freed at the end opposite to that attached to the tree, the latter will fall to the ground and pull out the suspension wire.

3. DETAILS OF STRING TYPE

To rig up the Japanese string-type booby trap, two trees adjacent to each other are selected. A hole is drilled through the trunks of each tree, and a length of easily broken string is passed through the holes

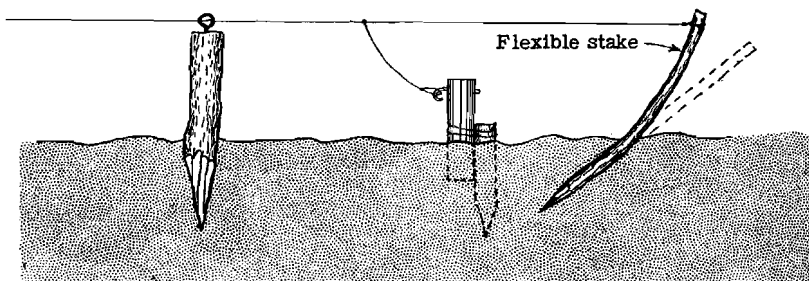


Figure 11.—Japanese Tube Booby Trap (utilizing elastic stake method).

(see fig. 12). On each end of the string is attached a grenade whose safety wire has been removed. Tied into the string between the grenade and the tree are three nails. When that portion of the string which is suspended between the trees is pulled, the nails prevent the movement of the string. Therefore, if the force is great enough, it will break. This frees the grenades and they fall to the ground, striking a rock, steel plate, or any other hard surface previously placed there. The firing pin is forced into the cap; this action detonates the grenade.

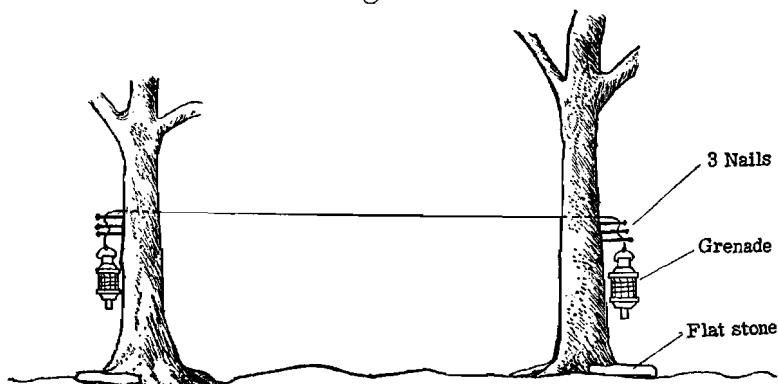


Figure 12.—Japanese String Booby Trap.

Section IV. JAPANESE CHARACTERISTICS AND REACTION IN BATTLE

1. INTRODUCTION

Characteristics of Japanese soldiers and their reactions under fire have been discussed frequently in the *Intelligence Bulletin*, primarily for the purpose of acquainting U. S. junior officers and enlisted men with the enemy they may face in battle. Repetition has largely been avoided in presenting this information; therefore, for a fairly complete study of the subject matter, the reader should refer to the following articles in past issues of the bulletin:

Vol. I—"Characteristics of the Japanese" (No. 2, pp. 27-35; this section tells how to differentiate between the Japanese and the Chinese); "The Japanese Soldier" (No. 3, pp. 35-36); "Festivals and Holidays" (No. 3, pp. 53-54); "Individual Characteristics" (No. 5, p. 37); "The Individual Soldier" (No. 5, pp. 42-52); "Handling Personnel" (No. 6, pp. 9-11); "Enemy Thoughts" (No. 6, pp. 18-26); "Morale" (No. 7, pp. 27-28); "Regarding Morale" (No. 8, pp. 55-57); "The Japanese Soldier" (No. 9, pp. 1-4); "Comments by Prisoners" (No. 9, pp. 27-29); "Conduct of Soldiers" (No. 10, pp. 80-81). Vol. II—"Individual Characteristics" (No. 2, pp. 33-34), and "Morale, Characteristics of Japanese Soldier" (No. 3, pp. 66-69).

2. AS SEEN BY OBSERVERS

Summing up the characteristics of the individual Japanese soldier during the New Georgia operations, a U. S. intelligence officer described the enemy as follows:

“He was afraid of hand-to-hand combat, and ran when our troops got close, unless he was in a well-concealed foxhole or in a fortified position. His marksmanship was poor—we were usually safe at a distance of 50 or more yards. However, he was expert at camouflage, and was thoroughly trained to operate in the jungle. He obeyed orders very well, and proved himself capable in night attacks and in handling barge movements. His officers lied to him frequently to bolster his morale. Not one Jap in 100 could speak any English. . . .”

A U. S. participant in the fighting around Buna described the average Japanese as follows:

“He had definite characteristics. We found that he was not too willing to die when the odds were against him, and that he squealed like a pig when routed. He was crafty, and took full advantage of his surroundings to improve his position. His camouflage was excellent. He frequently climbed trees and waited several hours for a target. He used decoys to draw our fire, with the intention of discovering our positions. He delighted in pulling various ruses to bewilder inexperienced troops. He fought with dogged determination while he considered he had a chance to win.”

An observer in the South Pacific relates that the regimental colors and standards of active infantry and cavalry regiments of the Japanese Army are highly revered, and guarded above the life of any member of the particular regiment. He says that the extreme importance attached to the regimental flag is borne out by statements made by prisoners of war. One prisoner said that a colonel in command of an infantry regiment was rescued from a torpedoed ship but that his regimental colors and the color bearer had gone down with the ship. As a result, the colonel, according to the prisoner, became mentally unbalanced and continually referred to the loss of the colors while apparently being indifferent to the loss of men and equipment.

The regimental colors of the infantry and cavalry regiments are presented to the units by the emperor and are symbolic of the "divine" Imperial family. The colors are never replaced, and their loss is considered by the Japanese to be an everlasting disgrace. An officer, usually a 2nd lieutenant, is selected to carry and guard the colors. It is stated that he undoubtedly would be executed if the colors were captured.

The regimental colors of old regiments of the Japanese Army are now little more than a few shreds of cloth and tassels, and are the more highly prized on this account.

The colors consist of the Imperial flag of Japan on a pole, which is capped by the Imperial Crest, a chrys-

anthemum. The Imperial flag consists of a red sun with red rays on a white background.

3. ACCORDING TO JAPANESE SOURCES

That Japanese soldiers have been indoctrinated with the idea they are "sons of heaven" is borne out by the following statement made by an enemy soldier:

The first time the natives of the Gilbert Islands saw Japanese planes and soldiers was shortly after the outbreak of the war. They were astonished at the short stature of our air force personnel.

When the native saw the noble sight of our defense forces repulsing American attempts to land and our air force covering the skies, their confidence turned to worship. They then believed in the legend of "A land of the gods across the sea." Now that the natives have seen our god-soldiers, they have come forth as partisans of the Imperial Forces.

At least one Japanese unit was given the following "Guide to Certain Victory":

Fight hard; leaving nothing undone. If you are afraid of dying, you will die in battle; if you are not afraid, you will not die; if you are thinking of going back home, you will never go; if you do not think of it, you will go home.

A Japanese soldier made the following optimistic statement:

When we think about going to Sydney [Australia] and Washington, D. C., our morale soars.

Man for man, we ought not to be beaten by those hairy foreigners. We must foster such conviction and skill that one of our men can take on, if not 1,000, then at least 10 of theirs!

Further insight into the cocky, bragging nature of the Japanese soldier—as long as he is winning—is revealed in the following enemy poem:

We will have the rising sun dyed with a red tide of blood as a symbol of world domination.

We will angle for crocodiles in the Himalaya-bestowed waters of the Ganges [river in India].

We will have our annual Boys' Festival in London when the fog clears.

The lights of London and [illegible] will shine again when our police take over there.

Today in Berlin, tomorrow in Moscow.

Even snow-swept Siberia will be in the August Hands of the Emperor.

Our grandchildren will erect memorials to us in the streets of Chicago.

We will drink our fill of *sake* on the plains overlooked by great mountains.

[Line regarding the Great Wall of China and the Gobi desert unprintable—Translator]

If I die, let it be where the three rivers meet, and there will I wrestle with my thoughts.

When Japanese casualties began to mount in a certain South Pacific combat area, the enemy command deemed it necessary to revise the procedure of burying the dead, and issued the following instructions:

Too many graves with markers are not good for security and morale. Also, it is unfair to erect grave markers for some persons and not for others. Since a grave will be erected at the home of a deceased man, it is not necessary to erect one for him on the battlefield.

When burying the dead on the battlefield, avoid using the sides of a road. To dig a grave for a deceased person near the road may be taken as a sign of disrespect for him. In burying the dead away from the road, dig as deep as possible so that the offensive odor will not leak out.

Previously reported Japanese doctrine with regard to becoming prisoners of war is confirmed by the following enemy statement:

Under no circumstances become a straggler or a prisoner of war. In case you become helpless, commit suicide nobly.

Section V. JAPANESE PLAN TO COUNTER SUPERIOR FIRE POWER

1. INTRODUCTION

In several areas of the South Pacific, the Japanese have made reference to the "superior fire power" of the United States and Australian forces. At least one large enemy unit has devised a written plan "to counter hostile forces equipped with superior fire power." The salient points of this plan are presented below.

2. THE PLAN

a. Preparations

When faced with superior fire power, it is essential that we [the Japanese] select the terrain for combat, as well as the time for launching the attack, and take the hostile forces by surprise. We should select terrain that provides good concealment, such as wooded areas.

We must make a thorough reconnaissance of the dispositions and intentions of the hostile forces, and we must thoroughly familiarize ourselves with the terrain selected for combat. Furthermore, we should study the habitual strategy of the hostile forces, and prepare ourselves to take advantage of their weak points.

Our plans must be kept secret, including our reconnaissances, and we must attack at an unexpected time and at unexpected places. We seldom will be able to gain surprise by attacking the opposing forces on terrain which permits a fairly easy ap-

proach. Stormy or foggy nights afford good opportunities to attack with surprise. The attack must be made with as much mobility as possible.

To minimize damage from superior fire power, we must use camouflage effectively and prevent our forces from bunching. And when the fighting becomes static, we must utilize well-constructed positions, the natural protection afforded by the terrain, and dummy positions. We can deceive the hostile forces by using dummy soldiers, dummy observation towers, and so forth. The positions for automatic weapons must be changed frequently, and positions for heavy weapons must be well concealed.

b. Use of Weapons

In the employment of our weapons, we must carefully select targets, and then concentrate on them to gain local fire superiority. For example, three riflemen should constitute a group to concentrate on one particular target. Likewise, two light machine guns may profitably be concentrated on one target. Be sure to take every advantage of the mobility of these weapons.

As for grenade dischargers, we should attack suddenly with them toward the most important target. Do not deliver ranging fire, but fire for effect immediately after going into position.

When on the defensive under normal conditions, the company commander and, if possible, the platoon or squad leaders will concentrate their fire power on the main objective. After annihilating the latter, they should move on to a new objective.

Before launching an assault, the commander of a rifle company should organize an assault platoon. He should coach his men on the need for concentrating fire power, and the necessity for carefully utilizing it during the assault.

With regard to the machine-gun company and the infantry battalion-gun company, each commander should order individual squads to fire rapidly in short bursts. Forward movements should be made by advancing in echelon or by moving from position to position in line or abreast.

Section VI. SOME JAP METHODS OF OVERCOMING OBSTACLES

1. INTRODUCTION

The following information on Japanese methods of overcoming obstacles was extracted from an enemy publication dealing with field fortifications. A study of these methods should prove helpful to U. S. military personnel concerned with the defense of obstacles against Japanese attacks. However, these methods should not necessarily be construed as complete and up-to-date enemy tactical doctrine on the subject.

In connection with this section, reference should be made to "Notes on How Japanese Attack Pillboxes" (*Intelligence Bulletin*, Vol. I, No. 12, pp. 54-60).

2. WIRE OBSTACLES

In determining where a breach will be made in a hostile wire obstacle, select a section which will facilitate the operations, provided the selection will fit in with the over-all tactical plan. Generally speaking, select portions of wire obstacles which have been damaged by shells or bombs, or are easily approached.

The organization and equipment of demolition parties vary according to the particular situation. Personnel include the

party commander, operators, and relief men, who constitute a reserve and act as sentinels. The equipment includes wire cutters, Bangalore torpedoes, hand grenades, smoke pots, and, depending on the situation, portable shields, sandbags, and so forth.

a. Operating with Secrecy

To make a breach in a hostile [U. S.] wire obstacle secretly, the demolition party must be thoroughly rehearsed beforehand in all details.

In cutting wires, first investigate the presence or absence of thin wire, the condition of intersecting wires, the presence or absence of alarm installations, and so forth. Then open wide the handles of the wire cutter, raise the catch claw (a stick in a piece of bamboo), and, after slowly inserting the wire cutter all the way at a right angle about 1 foot from a post, press the handles with both hands and make a notch in the wire. Grasp the notched wire with both hands, one on either side of the notch, and hold the long strand fast; without making any noise, bend and break the short strand. Bend the end of the short strand close to the post in the direction of the opposing forces, and immediately thereafter stick the end of the long strand into the ground as far as possible from its point of attachment, or tie it to some natural object.

When two men operate jointly, one man (A) holds both sides at the cutting point, and the other (B) makes the notch. (A) breaks the wire, following the principles outlined above, and (A) takes care of the long strand and (B) the short strand.

While cutting wire, the operator must rest one elbow against his body, on the ground, or on a post. In cutting the lower strands, he will kneel or lie down; he will assume any convenient posture while cutting the higher strands.

In placing Bangalore torpedoes under wire obstacles, two men are employed. After the rear man has removed the safety catch and screwed in the igniter, and the front man has ascertained

the spot where the torpedo will be placed, the two operators push the weapon on the ground to its final position. Sometimes a torpedo is placed in position by use of pulleys.

In igniting Bangalore torpedoes, the rear operator pulls the string with a sharp jerk and, within the delay time, withdraws 10 or more yards to the rear and lies down. To avoid any danger, all personnel take full advantage of terrain or natural objects which afford protection.

In case a Bangalore torpedo fails to explode, the demolition party should have a torpedo in reserve, or be prepared to use wire cutters.

Should the demolition party be illuminated by hostile searchlights or receive fire, it must try to maintain as much secrecy as possible and continue its work with perseverance and fortitude.

When the demolition is completed, the party commander reports by means of previously arranged signals and fixes the necessary markers. He also acts as an observer and watches at the breach.

b. Operating under Fire

To succeed in cutting a breach in a wire obstacle while under fire, the demolition party must work with speed, decisiveness, and daring. It must take advantage of all opportunities to neutralize or impair hostile fire by means of our own fire power or smoke.

In cutting the wire, open wide the handles of the wire cutter, put yourself in a position to support the left (right) elbow, and cut so as to push the wire with the right (left) hand; cut straight through at right angles. The point of cutting should be as near a post as possible.

In placing Bangalore torpedoes under wire obstacles, one man forward generally keeps the head end of the torpedo at the selected post, and two rear men insert the weapon with one shove. Sometimes, depending on the situation, it is advisable to place the torpedo on top of the wire and ignite it.

In disposing of steel wire nets, whether secretly or while under fire, the demolition party should either cover them, clear them away, or destroy them with Bangalore torpedoes. If necessary, have troops lie temporarily on top of the wire net and press it down.

3. ABATIS

In using the implements to overcome abatis secretly, open a passage, if possible, by cutting off the branches close to the surface of the ground and slowly clearing them away to an adequate extent, with all personnel cooperating.

In making a breach in abatis while under fire, first cut any wires, then cut the branches and remove them to one side. Sometimes it may be better to dig the abatis from their foundations and clear the branches away. Those not firmly secured can often be cleared away by attaching a net to them and pulling.

To destroy abatis by means of Bangalore torpedoes, rest the pipe on the forked part of the branches on the front edge. Remember that simple abatis are often combined with hand grenades, and land mines, and so forth. Demolition or removal in such cases will be carried out after first disarming the weapons.

4. ANTITANK OBSTACLES

To enable passage of tanks over an antitank ditch, blast down the sides of the ditch with explosives, or tear down the slopes with implements, or fill the ditch with sandbags and other suitable material, or set up a gabion or framework.¹

¹ A gabion is a cylindrical basket woven with open ends; it is filled with earth and generally used as a retaining wall in constructing fieldworks. In modern warfare sandbags are generally used in place of gabions.

To destroy iron-rail barriers and abatis, explode grouped demolition charges or Bangalore torpedoes at the base of the obstacles, or clear them away by use of suitable implements.

To enable tanks to cross an antitank pit, lay logs over the top at right angles to the direction the tanks will travel; or place gabions, and so forth inside the pit. In laying logs, be sure that they are firmly placed to prevent slipping. The interval between logs varies with the type of tank. For medium tanks the interval should be not more than $1\frac{1}{2}$ yards; for light armored cars it should be not more than $2\frac{1}{2}$ feet. In putting a gabion inside the pit, it is necessary to consider the distance it will sink by the weight of the tanks. If frames are used, all parts should be connected by wires, or iron fasteners. It will be advantageous to carry along several types of frames, prepared so that we can place them simply and quickly, as desired.

Section VII. MISCELLANEOUS

1. HANDLING PRISONERS

That at least some high Japanese officers recognize the importance of capturing prisoners for intelligence purposes is borne out by the following enemy statements:

Since prisoners often furnish profitable intelligence, after you have examined them as to their unit, you will send them back immediately to higher headquarters. This procedure is doubly imperative when an important enemy officer is captured.

Interrogating intelligent prisoners of war is a profitable manner in which to accumulate information.

If we make a special effort, we can capture prisoners with ease. Therefore, all front-line units, sentries, and patrols will take advantage of opportunities to execute surprise attacks for this purpose. You will find it profitable to use pitfalls.

2. USE OF ENGINEERS

The Japanese Army engineer is very much a front-line soldier. He is employed in the advance guard during an approach; he is used in the first waves of troops during landing operations; or he is detailed to any job which requires special training, such as special

assault detachments or parties for attacking strongly fortified positions, for attacking tanks at close range, and for raiding hostile artillery positions, and so forth.

It is interesting to note the percentage of engineers the Japanese use in assault groups. In fighting tanks or attacking pillboxes, the enemy party may be composed entirely of engineer troops. From 50 to 75 percent of the personnel in raiding parties are engineers.

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(For explanation of symbols see FM 21-6.)



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